SIMON

OPERATING PLAN

Loring Quarry
Sections 33 & 34; T5S-R4E
Custer County, SD

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APPENDICES

1. GENERAL DESCRIPTION

Simon Contractors of SD, Inc. (Simon) currently owns and operates the Loring Quarry under a mine license. The quarry is located approximately four miles southwest of Pringle, South Dakota in Sections 33 and 34 of Township 5S, Range 4E in Custer County. The quarry is comprised of two parcels both owned by Simon. Parcel 006251 (~45 acres) and parcel 006252 (~126 acres). Simon also owns the mineral rights. The quarry is currently accessed via County Road CS 316.

The quarry was purchased from J. Erpelding by Northwest Engineering (Hills Materials) in 1963 and was already a quarry at that time. In 2015, Simon acquired Hills Materials and has continued to operate the quarry. The quarry is an open pit limestone quarry with reserves estimated to last up to 65 years or more.

Although Simon is applying for a large scale mine permit, the actual mining operations currently conducted under the existing mine license will not change. Approval of the large scale mine permit will provide the ability to sell limestone products to an agricultural consumer base.

This mine plan was prepared and will be implemented to meet the applicable statues and regulations of SCDL 45-6B and ARSD 74:29.

2. MINING METHOD AND TYPE

ARSD 74:29:02:04, SDCL 45-6B-6(7)(8) and SDCL 45-6B-7(10)

Simon will mine limestone for commercial processing and sales by stripping the mining area of any topsoil, and/or overburden, above the limestone deposit using appropriate construction equipment such as but not limited to dozers, track excavators, scrapers, etc., depending on the layout. Typically, only enough area is stripped to allow for one to three years of sales volume. Topsoil and overburden are stockpiled or placed according to the reclamation plan. The Proposed Permitted Affected Area west of the George S. Michelson Trail is anticipated to be approximately 78.4 acres and approximately 26.9 acres east of the trail. All potential disturbance will be contained within the quarry boundary and a working/vegetative buffer, of no less than 50 ft, will be maintained from the George S. Michelson Trail.

Once topsoil and/or overburden are removed, drilling and blasting operations begin. Drilling is conducted by Simon, while blasting operations are contracted out to a third party. Blasting only occurs during production/crushing. Drilling and blasting operations will utilize a long-hole benching method. Blasting will be conducted using ammonium nitrate/fuel oil explosives detonated with a PETN (pentaerythritol tetranitrate) cast booster. Explosives are completely consumed during combustion and no residue should remain. After blasting, material is loaded into the crusher where it is sized into difference products. No tailings are produced during mining operations. The only spoil produced would be the removed overburden. At this time there are no proposed reservoirs, tailings ponds, tailings disposal sites, dams, dikes or diversion canals. There will be no tailings dams. A wash plant and washing ponds could be added in the future to remove limestone fines from specific products to meet customer specifications. Location of the wash plant and ponds would be determined at that time. Fines from the wash pond will be stockpiled for sale.

Once the material has been processed by the crusher, it is stockpiled onsite via conveyors and or loaders. There is no waste material from the crusher. Agricultural use products are of a separate, distinct specification from the construction products and will be stockpiled, sold, and tracked

separate from the construction products. When sold, the product is loaded onto trucks using a loader, weighed on a scale, ticketed, and shipped to customers. Limestone is used as a crushed stone for road base, railroad ballast, coarse aggregate in ready mix concrete, coarse and fine aggregates in hot mix asphalt, and as a component in the manufacturing of Portland cement. Limestone (ag-lime) from this mine will be sold for use in agricultural applications such as soil amendments or feed supplements. Additional limestone rock products will be used in the processing of other agricultural related products and operations.

Reclamation occurs as soon as practical after the mining process is complete. Usually overburden and topsoil are placed in their final resting place designated by the reclamation plan, and this is done where reserves have been exhausted and where it won't prohibit continued mining processes. All overburden stockpiles will be utilized during reclamation, so stockpile stability analysis will not be necessary. Once mining is complete, highwalls will be reduced to the natural angle of repose or a 3:1 slope, unless it is determined they should remain for bat habitat. Simon shall seek input from South Dakota Game, Fish and Parks regarding leaving highwalls for bat habitat. A stability analysis will be conducted should any of the highwalls remain after final reclamation.

Existing areas within the permit boundaries were historically mined by other entities prior to July 1, 1971. Disturbance was primarily within parcel 006251. These "Pre-Law" mining areas were not reclaimed, and the proposed mining and reclamation is likely to enhance the productivity of the land from its current condition.

Maps in Section VIII of the Large Scale Mine Permit Application (LSMPA) package depict pre-mining and proposed postmining topography along with four profile centerline contours. Since this is an existing quarry, true pre-mining contours only exist for the undisturbed portion of the property. Pre-mining contours from the disturbed area are from August 8, 2021, but do show contours of the unaffected portions of the area. Topography in the northeastern portion of the area will remain unchanged. Pre-mining centerline A ranges from 4609 to 4669 ft., centerline B ranges from 4608 to 4666 ft., centerline C ranges from 4597 to 4666 ft and centerline D ranges from 4586 to 4678 ft. Post-mining centerline A ranges from 4555 to 4669 ft., centerline B ranges from 4586 to 4666 ft., centerline C ranges from 4555 to 4666 ft and centerline D ranges from 4540 to 4678 ft. Quarry highwalls prior to slope reduction are depicted on the post-mining centerline contours as well. Lastly, a map showing highwall contours prior to slope reduction is included in Section VIII as well.

Depth of mining will range from 0 ft. to 100 ft. depending on depth to the limestone. Mining in 2023 will be conducted in the central part of the quarry proceeding north through 2029. Mining during this time period will primarily occur in the already disturbed area, and the stockpile area will be south of the active mining area. Mining in 2030 through 2035 will be conducted back in the central part of the quarry proceeding south through 2035. Mining in 2036 through 2042 will occur on the west side of the area in a previously undisturbed area. The stockpile area during this time period will be in area previously mined in 2023 through 2030. Mining in 2042 through 2070 will proceed down in depth rather than out. Mining on the east side of the trail will not occur until approximately 2085 or later. The direction of mining is illustrated on the mine sequence maps (LSMPA Section VIII).

The mine permit and mine license (14-977) acreages are one in the same and cannot be spatially separated. Approximately, 70% of the limestone products would be sold as construction

aggregate and 30% would go to agricultural use. Using those percentages approximately 54.9 acres west of the trail would be under the mine license and 23.5 acres would be under the mine permit. Similarly, approximately 18.8 acres east of the trail would be under the mine license and 8.1 acres would be under the mine permit.

3. LOCAL, STATE AND FEDERAL LAWS

ARSD 74:29:02:02 and SDCL 45-6B-32(1)(2)(3)(4)(5)(7)

The operating plan, reclamation plan and proposed future use is not contrary to the laws or regulations of the State of South Dakota or the United States. Simon is not currently in violation of the provisions of Chapter 45-6B with respect to other mining operations in the State. The $1,000 fee has been paid. The reclamation bond payment will be made as soon as the State deems the application complete, the bond amount is agreed upon, and before the issuance of the permit. There are no significant, valuable or permanent man-made structures located within 200 ft. of the mining operation that will be adversely affected. There are no known underground utility lines or pipelines within 200 ft. of the mining operation. The overhead power line spur west of the trail is slated to be removed and power will be provided by gen-sets. The trunk line on the east side of the trail will eventually need to be rerouted prior to be start of mining operations east of the trail. Custer County does not have any zoning, ordinances or permitting requirements that would impact a large scale mining operation. Correspondence is provided in Appendix A.

4. UNSUITABLE AND PREVIOUSLY MINED LAND

SDCL 45-6B-7(5), SDCL 45-6B-8, SDCL 45-6B-32(8), SDCL 45-6B-33(1)(3)(6) and SDCL 45-6B-92(10)

Environmental baseline surveys do not indicate that the quarry area is special, exceptional, critical or unique. The land is not ecologically fragile and can return to its former ecological role in the reasonably foreseeable future. The land does not have a unique or strong influence on the total ecosystem of which it is a part. The Department of Agriculture and Natural Resources determined the lands within the proposed Loring Quarry mine permit boundary do not constitute special, exceptional, critical or unique lands. There are no significant historic, archaeologic, geologic, scientific or recreational features at the Loring Quarry with the exception of the Mickelson Trail. A copy of the Notice of Determination can be found in Appendix B. Reclamation of the affected land is economically and physically feasible.

No adverse socioeconomic impacts were identified that would outweigh the probable beneficial impacts of the large scale mine operation. The socioeconomic study can be found in Appendix D of the Reclamation Plan.

The Loring Quarry was purchased from J. Erpelding by Northwest Engineering (Hills Materials) in 1963, and was already a quarry at that time. Simon then acquired Hills Materials in 2015, which included the Loring Quarry. Surface mining disturbance prior to July 1, 1971 was primarily within parcel 006251. Areas mined prior to July 1, 1971 have been affected under the current mine license. A map of the quarry showing the disturbed area based on aerial imagery from 1953 can be found in Section VIII of the LSMPA.

5. MINIMIZING ADVERSE IMPACTS AND CRITICAL RESOURCES

ARSD 74:29:07:02(1)(2)(7)(8)(9)(10), SDCL 45-6B-32(6), SDCL 45-6B-33(2)(3)(4)(5), SDCL 45-6B-92(1)(2)(3)(4)(5)(6)(7)(8)(9)

The mining operation is designed to minimize surface disturbance by clearing land in small sections; typically enough to allow for one to three years of sales volumes. There will be no tailings piles, and topsoil and overburden will be stockpiled for future reclamation. Stockpiles are

stored in close proximity to the disturbance to reduce haul distance. Limestone stockpiles will be located in disturbed areas reducing impacts to native areas. Topsoil and overburden are stored where they will not need to be moved until reclamation occurs. Minimizing movement will allow the stockpiles to become stabilized with vegetation reducing the chance for erosion and minimizing impacts. Crusher fines will be stockpiled for sale with the other limestone product stockpiles. Should a wash plant/ponds be constructed in the future, wash pond fines will be stockpiled for sale. These stockpiles will be watered down, which forms a crust preventing wind erosion. Reclamation occurs as soon as possible behind mining. Usually topsoil and overburden are placed in their final resting place designated by the reclamation plan, and is done where reserves have been exhausted and where it won't prohibit continued mining processes.

In general, surrounding land uses include recreation, forest and private. The quarry has been designed so that the recreational trail running through the area will not be disturbed. Private landowners and forest access will not be impacted by the continued operation of the quarry. Mining operations and reclamation will be carried out in conformance with SDCL 45-6B-35; see below for further discussion.

Water

ARSD 74:29:07:02(4), ARSD 74:29:02:11, ARSD 74:29:07:08 through ARSD 74:29:07:11, ARSD 74:29:07:27, SDCL 45-6B-41 and SDCL 45-6B-92(2)(4)

Mining operations are not expected to impact surface water, and no disturbances to the hydrologic balance are anticipated. The unnamed intermittent drainage running roughly north to south across the east side of the property as well as the drainage running west to east across the southern most corner of the property (Cold Brook) will be maintained throughout the life of the quarry and final reclamation.

The unnamed intermittent drainage in the central part quarry will not be diverted. A 1953 aerial image, provided on the Previously Mined Land map, shows that the drainage was already disturbed at that time, and was no longer hydrologically connected to the drainages east of the trail. This drainage is comprised of a small basin just to the northwest of the quarry. Given the small area of the drainage it is not expected to contribute water to the pit area regularly, and likely only flows for a brief period during intense precipitation or significant snowmelt events. Based on the National Hydrologic Dataset (NHD), it appears this drainage at one point would have crossed the railroad grade near the current scale location where there were pre-existing culverts. The vegetated swale is not a diversion ditch, but more of a product of the railroad grade. Surface water would hit the swale and break north to the unnamed intermittent drainage or south to the culverts near the scale. Surface water runoff diversions are not anticipated to be needed.

A vegetative buffer will be maintained around the drainage running north to south across the east side of the property as well as Cold Brook across the southern most corner of the property, to prevent sediment deposition, and the drainages will not be diverted. The unnamed drainage running north to south across the east side of the property is outside the Proposed Permitted Affected Area.

Soil and vegetation survey results were submitted to the U.S. Army Corps of Engineers (USACE) as part of a Request for Corps Jurisdictional Determination (JD). The approved JD found that the review area was comprised entirely of dry land (i.e., there are no waters or water features, including wetlands, of any kind in the entire review area). They determined that the drainage

consisted of an upland swale, with vegetation and soil results confirming that no wetlands were present. The approved JD can be found in Reclamation Plan Appendix D.

Surface water flow was monitored (presence/absence) at the concrete culverts (see Mine Plan Map for location) after precipitation events greater than 0.25 in. Precipitation was tracked using a weather station (Meso Wet PRIS2) located in Pringle, SD. Precipitation tracking began April 27, 2020 and multiple events greater than 0.25 in. were recorded. The culvert area was consistently visited following these events and no surface water flow was ever observed. Some pooling of water did occur in a low lying area under the recreation trail. Visits were recorded and photo documented and can be found in Appendix C. Monitoring for surface flow is ongoing at this time.

Carroll Creek (an intermittent drainage) is located downstream of the quarry property boundary and is not anticipated to be impacted. The confluence of the unnamed intermittent tributary and Cold Brook with Carroll Creek is approximately 0.8 miles from the property boundary. There is also a permitted dam (Location Dry Draw Dam – 48844) prior to the confluence. No hydrological connectivity was ever observed while monitoring for surface water flow after precipitation events.

Mining operations are not expected to impact groundwater, and no disturbance to the hydrologic balance is anticipated. No adverse impacts to aquifer productivity, public/domestic water wells, watershed land, aquifer recharge areas or agricultural areas is anticipated. There are no direct sources of drinking water.

No well records were found within the quarry property, but an old shallow well is present in the southern part of the quarry. The windmill is no longer onsite and the well has not been pumped for several years. The functional status of the well is unknown at this time. No groundwater was encountered during exploratory drilling. A search of the SD DENR database (https://apps.sd.gov/nr68welllogs/) identified 2 wells (1 stock - 61831; and 1 domestic water well - 67605) within ½ mile of the quarry boundary; see Water Resources Map (LSMPA Section VIII). According to the well logs, the domestic well was drilled and screened to 100 ft., completed in the Minnelusa and Madison aquifers, and had a static water level of 17 ft. below land surface at the time of completion in 2008. The stock well was drilled to 170 ft., screened to 167 ft., completed in the Minnelusa aquifer, and had a static water level of 16 ft. below land surface at the time of completion in 1989. Both wells were sampled for water quality on July 21, 2020 along with a spring fed well that was identified by one of the landowners.

Upon resuming sampling in March 2021, the owner of the domestic and spring fed wells, requested the domestic well be sampled from a different tap. From March through August this tap was sampled assuming it was drawing from the domestic well. Unfortunately, while going through the process of listing and selling the property the owner discovered that the tap was actually connected to the spring-fed well. The September, October and November samples were collected from the original location sampled July 21, 2020, which is drawing from the domestic well. The owner of the stock well declined to allow continued sampling. Results from groundwater monitoring are provided in Appendix D.

Groundwater was not encountered during exploratory drilling. The Loring Quarry is located on an outcrop of Madison limestone. The quarry is also near outcrops of the overlying Minnelusa formation and includes some alluvial deposits along the unnamed intermittent drainages. The Pahasapa Limestone and upper Englewood Limestones form the Madison group, but the quarry area is comprised entirely of Pahasapa Limestone. Overburden within the quarry area ranges

from 0 to 50 ft. with the thickest areas of overburden occurring outside the Proposed Permitted Affected Area. The bottom of the limestone deposit was not encountered during exploratory drilling, and limestone thickness could exceed 200 ft. A USGS geological map by Redden and Dewitt (2008) showing the geology, structure and geophysics of the Central Black Hills, South Dakota, indicates the quarry is characterized by a small-scale ellipsoid-shaped domal geologic structure likely formed by the fractureless upwarping of the limestone. The apex of the dome is in the current quarry area and the plunging anticline limbs of the dome are asymmetrical with the longest limbs orientated northwest and southeast and the shortest limbs oriented northeast and southwest. Cross sections of the geology near the quarry were created from the geological map by Redden and DeWitt (2008) and are in Section VIII of the LSMPA.

Generally, groundwater flow in the Madison is radially outward from the core of the Black Hills. The shallow Pahasapa Limestone in the quarry area is largely unsaturated and potentiometric maps of the Madison aquifer do not include the quarry area. However, the assumed direction of groundwater flow in the Madison aquifer near the quarry is shown on the geological cross sections (LSMPA Section VIII). Groundwater flow in the Minnelusa aquifer also regionally occurs radially outward from the core of the Black Hills. A modified potentiometric map of the Minnelusa aquifer (Strobel, et. al., 2000; sheet 2) and assumed groundwater flow near the quarry can be found in LSMPA Section VIII. Locally, the direction of groundwater flow in the Minnelusa aquifer varies, but likely is influenced by land-surface topography because the aquifer is largely unconfined in the area near the quarry. The quarry itself contains very little Minnelusa formation, but nearby wells are fully or partly completed in the Minnelusa formation. Both the Madison and Minnelusa aquifers recharge from precipitation infiltrating at outcrops. The area receives an average of 19.0 inches of annual precipitation and has an average annual snowfall of 56.0 inches.

The domestic well (67605) completion report from the driller's log states it was drilled into red shale and limestone, and screened from 30 to 100 ft. Although possibly partly completed in the Madison aquifer, the primary sources of recharge to the well likely are the Minnelusa outcrops near the well. The well is in a valley with rising topography about 200 meters to the north and south (see geological cross section A to A') indicating that recharge to the well is from the watershed bounded by the high terrain surrounding the well. The recharge area for this well, as well as the spring, likely is outside the quarry property. Similarly, the stock well (61831) was completed in the Minnelusa formation, and is also in a valley with high topography about 500 meters to the east and west (see geological cross section B to B'). The likely sources of recharge to this well is the watershed bounded by the high topography which is also outside the quarry property. Quarry expansion in the Pahasapa Limestone has a very low likelihood of affecting recharge sources for the domestic well, spring or stock well.

Because the quarry is on the apex of a domal structure with anticlines dipping away from the center of the quarry, the Pahasapa Limestone would require saturation to a high elevation to permit groundwater flow into the quarry. Groundwater has not been encountered during current mining operations, and there is anecdotal evidence that the grotto under the quarry is dry.

Areas of karst terrain in the Minnelusa and Pahasapa Formations are common in the Black Hills of South Dakota. Karst terrains include geologic features such as barren rocky ground, caves, sinkholes, underground cave lakes, and the absence of surface streams and lakes (Langer, 2001). These karst features form from groundwater dissolving soluble limestone. Most karst developments in the Pahasapa are in the upper half to upper two-thirds of the formation thickness and generally are close to the contact with the Minnelusa Formation. Karst features

provide conduits for rapid recharge to aquifers and enable the fast flow of groundwater through aquifers. Additionally, karst developments have low self-purification capabilities for groundwater. Best management practices are in place to minimize and/or eliminate the possibility of impacting the Madison aquifer via surface inflow into the quarry area. These practices include not storing bulk fuel or oil on location, following best-management practices for herbicide application, use of water for dust control only, and adherence to a storm water pollution prevention plan. Each of these measures are described in further detail below.

A Spill Prevention Control and Countermeasure (SPCC) Plan is not required for this mining operation as there is less than 1,320 gallons of bulk storage on location. Equipment is refueled using mobile refuelers, which are not parked or stored on location. Refueling operations are manned ensuring timely clean-up of any spills should they occur.

The only use of chemicals onsite would be herbicides for noxious weed control and potentially soil amendments, if required during reclamation. Herbicides will be applied on an as needed basis by a licensed and reputable third party contractor following all applicable regulations and best management practices. A portable magazine is used for the storage of explosives.

The mining operation anticipates only requiring the use of water for dust control. Approximately 6,000 gallons per 10 hour day are used to control dust at the crusher drop points. Dust palliatives will be used to control dust as needed and to conserve water. Water is sourced from Hot Springs and a water rights permit will not be required at this time. No ponds, dams or pollution control facilities will be required.

The Loring Quarry is currently covered under South Dakota's General Permit for Storm Water Discharges Associated with Industrial Activities (Permit No. SDR00A294). A Storm Water Pollution Prevention Plan (SWPPP) has been prepared for mining activities as is required for coverage under the general permit to discharge. The SWPPP is included in Appendix E of the Operating Plan. The SWPPP lists Best Management Practices (BMP's) that Simon will utilize to prevent potential adverse impacts to the hydrologic features described above. As part of the monthly storm water inspections, drainages at the quarry will be monitored to ensure no sediment deposition has occurred. All reclaimed areas will be inspected for erosion and revegetation issues in order to comply with the terms and conditions of the mine permit. Inspections will also be conducted should a precipitation event of 1.0 inch or more occur. Precipitation events will be monitored using the same weather station described above. No other surface water monitoring is planned at this time.

Given that no groundwater has been encountered at the quarry, groundwater quality sampling results all met drinking water standards, and that no complaints regarding water quality have been received, additional groundwater sampling is not planned at this time. It is not anticipated that groundwater will be encountered when mining begins in the east expansion area.

Soils

SDCL 45-6B-92(6)

Pits/quarry and Rapidcreek cobbly loam comprised the majority of the project area, and these soil map units are not considered to be unusual or unique although moderate to high erosion hazards require best management practices during reclamation and revegetation. These measures include surface roughening initially, followed by seeding for stabilization. Refer to the Reclamation Plan for the seed mix and specifics regarding topsoil salvage.

Map units with rock outcropping (Q0659E Rockerville-Rock outcrop complex, 6 to 30 percent slopes and Q0702F pits/quarry) were noted to have low revegetation potential due to the lack of available topsoil salvage. Although topsoil salvage in these areas is lacking, there will be adequate topsoil for reclamation from other areas of the quarry. See Section 6 of the Reclamation Plan for a detailed discussion of topsoil salvage.

Noise

SDCL 45-6B-92(9)

Nearby residences, State Highway 89 and the Mickelson Trail could be impacted by noise. Mitigation efforts are in place to eliminate and/or reduce noise in areas surrounding the quarry. Simon will operate under Mine Safety and Health Administration (MSHA) designated noise thresholds, and noise tests are typically conducted during MSHA inspections. If equipment is found to be operating outside its normal decibel range, noise reduced back-up alarms will be installed to reduce decibel output. Blasting will not occur on low overcast days to minimize reflection of noise and air blast back to the ground. Blasting will be monitored as necessary with a seismograph to measure, record and document ground accelerations to ensure blasts are below standard thresholds to prevent any property damage to adjacent landowners (see Viewshed map for residence locations in LSMPA Section VIII).

Air Quality

SDCL 45-6B-92(8)

Nearby residences, State Highway 89 and the Mickelson Trail could all be impacted by fugitive dust depending on wind direction and speed. Dust mitigation includes watering the highwall face and pit floor prior to blasting and watering the muck pile after detonation of the shot. Haul roads will be watered to reduce dust from mine traffic via water truck. The portable crusher has an onboard water dust suppression system to control airborne particulates.

Visual Resources

ARSD 74:29:07:02(3) and SDCL 45-6B-92(5)

Some quarry activities are visible to occasional motorists traveling on State Highway 89, just east of the property boundary. The quarry has been in existence since the 1950's and should not have any new impact on the scenic nature of the area. The viewshed from nearby residences should not be impacted by continued mining based on viewshed modeling (LSMPA Section VIII). The need for visual screening is not anticipated.

Access

ARSD 74:29:07:02(5), ARSD 74:29:07:12(1)(2)(3)(4)(5)(6)(7)(8)(9)(10)

Access to and from the quarry is already established (west of the trail) and no new haul roads will be constructed and no roads cross the trail. This access is off of 18 Mile Road (County Road 316) and crosses a small portion of US Forest Service. This road is outside the DOT right-of-way, on Simon property, and is not within a riparian area and does not cross any streams. This road may be used by cavers to access the grotto, Black Hills Power or a rancher should grazing be occurring. This access will be maintained during the mining operation. The quarry property is fenced and access is limited by a locked gate.

Access to the east side of the quarry will be from a SD Department of Transportation approved access off Highway 89 that is already in place. A drainage crossing will be installed using either culverts or a concrete slab bridge; see Mine Plan Map for location. The drainage will be crossed at a right angle and be protected from erosion using appropriate methods depending on the type

of crossing. Drainage control structures will be used as necessary to control runoff and minimize erosion, sedimentation and flooding. Drainage control structures will be installed as road construction progresses and in accordance with the SWPPP BMP Manual (Appendix E). Vegetation will only be cleared to the width necessary to maintain slope stability and serve traffic needs, and no other transport facilities or utilities will be constructed with the road. Should a culvert crossing be used, it will be maintained to prevent erosion at the inlet/outlet, and avoid plugging or collapsing. This crossing will be removed during reclamation, and the access road will be reclaimed.

Vegetation

SDCL 45-6B-92(3)

The project area is already an operating quarry with some forested rangeland pasture. No threatened and endangered or SD Natural Heritage vegetative species were identified during the baseline vegetative survey. This area is similar to surrounding lands and does not exhibit unique scenic or aesthetic qualities.

Cultural and Wildlife

ARSD 74:29:07:02(6) and SDCL 45-6B-92(1)(7)

Baseline surveys and onsite visits conducted at the quarry resulted in the identification of two critical resources, as defined in SDCL 45-6B-2. Approximately 0.4 miles of the George S. Mickelson Trail crosses the eastern side of the property. This was identified as a critical resource and as such precautions will be taken so as not to disturb the trail. A 50 ft buffer will be maintained between mining operations and the trail at all times. No access roads will cross the trail. Access to the east side of the quarry will be from a SD Department of Transportation approved access off Highway 89 that is already in place. No other sites were recommended as eligible for the National Register of Historic Places.

Bats were the second critical resource identified and included four SDNHP sensitive bat species (Townsend's big-eared bat, silver-haired bat, long-eared myotic and fringe-tailed bat) and associated highwall habitat. Bat species were identified acoustically during spring and fall surveys. The grotto located beneath the quarry pit, and associated entrances, were evaluated as potential bat hibernaculum habitat. Two rounds of surveys were conducted at this location and no bats were observed emerging from either the highwall or nearby man-made (capped) grotto entrances. It is likely species recorded during the surveys were using the area for foraging, as there is suitable roost and hibernacula habitat present beyond the quarry property.

While there was no indication that bats were using the grotto and associated entrances during the hibernaculum surveys, mitigation efforts will be employed during the roosting and hibernation periods to minimize adverse impacts to this critical resource. Mitigation measures will include:

- Seasonal restriction on tree cutting, and
- Seasonal restriction on blasting near the vuggy highwall and pit area with grotto entrances.

To avoid or minimize disturbance to roosting bats, tree removal (live or dead) will only occur between September 15th and May 15th. Ongoing mining activity will likely preclude bats from using the vuggy highwall for roosting habitat. Bats utilizing the vuggy highwall will be displaced by mining operations such as drilling and blasting.

To avoid and/or minimize impacts to hibernating bats using the vuggy highwall and main pit area (with grotto entrances) blasting in this area may be restricted. If mining in this area has not occurred during the preceding month(s), blasting may not begin between October 1st and March 15th. If blasting at the vuggy highwalls has been continual throughout the summer, it can continue into November. The continued disturbance and disrupted highwalls should minimize impacts to bats by discouraging use of the area for hibernation. Blasting into October and/or November is not a common occurrence, but is needed occasionally. To preclude bats from accessing the grotto, the manmade entrances are and will remain covered.

No significant impacts to other wildlife species are anticipated from continued mining and reclamation activities at the quarry. The quarry was not identified as critical deer winter range, and no coldwater fisheries exist on the property. No threatened or endangered wildlife species depend on the biological productivity of the land, and the majority of habitats found within the quarry boundaries are typical of the region, and no unique or unusual wildlife features are present. Activities that could cause impacts to wildlife have been present, continuous and ongoing for several decades.

6. REFERENCES

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SIMON

RECEIVED
MAY 23 2022
MINERALS & MINING PROGRAM

RECLAMATION PLAN

Loring Quarry
Sections 33 & 34; T5S-R4E
Custer County, SD

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APPENDICES

1. GENERAL DESCRIPTION

ARSD 74:29:07:18

Simon Contractors of SD, Inc. (Simon) currently owns and operates the Loring Quarry under a mine license. The quarry is located approximately four miles southwest of Pringle, South Dakota in Sections 33 and 34 of Township 5S, Range 4E in Custer County. The quarry is comprised of two parcels both owned by Simon. Parcel 006251 (~45 acres) and parcel 006252 (~126 acres). The quarry is an open pit limestone quarry with reserves estimated to last up to 30 years or more. The Proposed Permitted Affected Area west of the George S. Michelson Trail is anticipated to be approximately 78.4 acres and approximately 26.9 acres east of the trail. Final reclamation on the majority of the disturbance west of the trail will begin when operations move to the east of the trail. The crusher area will remain while operations are ongoing on the east side of the trail. Final reclamation for the remaining areas will be completed on the west and east sides of the trail when mining operations are fully completed and the crusher and remaining stockpiles of saleable material are removed.

This reclamation plan was prepared and will be implemented in order to meet the reclamation standards as outlined in SDCL 45-6B, ARSD 74:29:02 and ARSD 74:29:05 through ARSD 74:29:08. This plan was prepared by individuals from Simon Contractors of SD, Inc. and H2E, Inc. with experience in developing reclamation plans. Preparer qualifications can be found in Appendix A.

2. PREVIOUSLY MINED LAND

ARSD 74:29:07:17, SDCL 45-6B-8 and SDCL 45-6B-9

The Loring Quarry was purchased from J. Erpelding by Northwest Engineering (Hills Materials) in 1963, and was already a quarry at that time. Simon then acquired Hills Materials in 2015, which included the Loring Quarry. Surface mining disturbance prior to July 1, 1971 was primarily within parcel 006251. Areas mined prior to 1971 have been affected by operations under the mine license and would also be affected by the continued mining operation. This is an open pit limestone quarry and, as such, no underground mining has occurred within the quarry.

3. GRADING

ARSD 74:29:07:03, ARSD 74:29:07:04 and SDCL 45-6B-37

Grading will be done so as to create a final topography appropriate to the final land use of forest; see Reclamation Contours Map in Section VIII of the Large Scale Mine Permit Application (LSMPA) package. Simon will seek input from South Dakota Department of Game, Fish and Parks (SDGFP) regarding leaving highwalls in place for bat habitat prior to blasting and regrading. Highwalls that will not be left in place will be blasted to a 3:1 slope. Since this consultation for highwall bat habitat with SDGFP cannot be conducted until mining operations are completed in each area, it is not feasible to determine which highwalls will be left in place or blasted and recontoured at this time. In the event that highwalls remain for bat habitat, the amount of available fill material will be reduced. Simon will ensure that slopes blend with surrounding native and reclaimed lands and that the slopes are stable and no steeper than 2.5:1. By creating slopes 2.5:1 or flatter, slopes will blend into the surrounding area. This will also result in stable slopes well below the angle of repose.

Backfilling will not occur, apart from what is required to properly recontour the highwalls and return overburden. For areas in which sloping by means of blasting are not possible (i.e. current west-extent highwall that is cut to the property line), overburden stockpiles will be used to backfill and recontour the highwalls to the appropriate slope, with all overburden removed from each

area of the mine (i.e. west side and east side of the mine) being returned to their respective locations. If highwalls are blasted, resulting blasted material will be processed into saleable products. The existing overburden stockpile contains approximately 27,000 cubic yards of material, and an additional 120,000 cubic yards of overburden is anticipated to be stockpiled. Approximately 80,000 cubic yards of overburden material will be used for reshaping of the highwall on the west property line, and all excess overburden not used for recontouring and sloping will be placed at a consistent depth over the limestone floor of the quarry. It is not anticipated that crusher fines will remain as they will likely be sold. Should crusher fines remain at the time of reclamation, they will be incorporated with the overburden as it is placed for recontouring slopes. Backfilling to return the pit area to its original elevation and contour would require approximately 5 million cubic yards of material. It would not be economically feasible to import this amount of material for reclamation purposes. This would also remove all highwalls resulting in the loss of potential bat habitat.

The unnamed intermittent drainage running roughly north to south across the east side of the property as well as the unnamed intermittent drainage running west to east across the southern most corner of the property will be maintained throughout the life of the quarry and final reclamation. A vegetative buffer will be maintained around the drainages to prevent sediment deposition, and the drainages will not be diverted. No depressions for the accumulation of water will remain. It is not anticipated that any unchannelized surface water will need to be diverted around the operation.

All finished and graded slopes will be considerably less than the angle of repose. In most cases the finished slopes will be 2.5:1 or less. Grading will be down to bedrock and the finished slopes will be graded into the mine property protecting land outside the affected area from slides. Final grading will be conducted using construction equipment (e.g. scrapers, blades, dozers, etc.) as appropriate to achieve the desired grade. Slopes will be tracked and seeded upon completion to reduced and eliminate soil erosion. Silt fence, rock dams and other standard best management practices will be installed should erosion issues be identified.

Concurrent reclamation on the west side of the quarry will begin in approximately 2035 and again in approximately 2070; see Section 12 for a detailed discussion. Final reclamation for remaining stockpile and scaling areas will be completed when mining operations are fully completed and the crusher and remaining stockpiles have been removed. The eastern quarry area will begin reclamation near the end-of-life of the mine and final reclamation will follow removal of the highwalls until complete.

4. REFUSE DISPOSAL

ARSD 74:29:07:05, ARSD 74:29:07:13 and SDCL 45-6B-38

Disposal of refuse will not occur at the site during mining or reclamation activities. A privately contracted dumpster will be located on-site at all times and be emptied as needed for proper off-site disposal. Additional smaller receptacles will be available when crushing operations are in progress. Any refuse produced onsite will be removed in a timely manner, so as not to create any unsightliness or unproductive areas, and will not pollute surface or groundwater. Petroleum contaminated soil would be hauled to a proper offsite disposal facility. There should be no refuse to remove once the mine enters the reclamation phase.

There are no circumstances in which any equipment would be abandoned at the quarry. Used mobile equipment parts will be removed from the site by maintenance personnel at the time of

replacement. Used crushing equipment parts may be stored on site while the crusher is operating, but would be moved off location when the crusher is moved out. No waste or reject materials are anticipated at this time. If, at some in the future, there is rejected material from the crusher it will be stockpiled for use during reclamation.

The calcium dust shed (~75 ft. x 108 ft.) and scale (6 ft. x 10 ft.) will be removed during reclamation. Any additional buildings or structures that may be constructed or placed within the permit boundary will be removed or deconstructed unless it can be demonstrated that they will be consistent with the approved postmining land use. Building materials from the calcium dust shed, or any other constructed buildings, will be discarded at an appropriate off-site disposal facility.

5. REVEGETATION

ARSD 74:29:02:10, ARSD 74:29:07:06, ARSD 74:29:07:19(1) and SDCL 45-6B-39

Reclaimed areas will be reseeded using native grass species adapted to the location and similar to the surrounding landscape. Seeding will be conducted using either hydro-seeding application or drill seeding as deemed appropriate at time of reclamation. Typically seeding is conducted in the early spring or late fall/winter. Additional amendments (mulching, fertilizer, etc.) may be required as deemed necessary at the time of reclamation. Soil amendments are not anticipated to be needed, but fertilizer may be applied at the time of seeding. The U.S. Department of Agriculture Natural Resource Conservation Service (NRCS) in Rapid City was consulted, and their recommended final seed mix can be found in Appendix B. Annual rye grass will be added to the final seed mix at a rate of 2PLS lbs./ac. Correspondence is also provided in Appendix B as proof of consultation. This seed mix is identified as a range planting, which is consistent with the typical understory of a ponderosa pine forest and is physiologically suited for the area. After grasses are established, ponderosa pine seedlings will be planted in areas that were identified as woodland in the pre-disturbance vegetation survey. The area that has previously been disturbed as a result of mining activities will also be planted as if it were a ponderosa pine woodland prior to disturbance. The vegetation survey included percent cover of ponderosa pine rather than density of trees. To calculate ponderosa pine density, an approximate count of individual trees was conducted based on aerial imagery, which resulted in a density of approximately 56 trees per acre within the woodland vegetation community. Ponderosa pine forests are characteristic of the surrounding area and this species is physiologically suited for establishment in the area. The NRCS does not have planting rates for ponderosa pines, and noted that they will typically move into a site from nearby areas without trouble. To speed the reclamation process, the NRCS noted that up to 100 seedlings per acre would be sufficient. A consultation with the Hell Canyon Ranger District Office of the United States Forest Service (USFS) indicated that the USFS plants to a density of 150 seedlings per acre (Appendix B). Therefore, the planting density for ponderosa pine seedlings will be 150 seedlings per acre. Ponderosa pine will be the only woody species planted.

6. TOPSOIL SALVAGE

ARSD 74:29:07:07, SDCL 45-6B-7(11) and SDCL 45-6B-40

All salvageable topsoil and overburden will be removed using scrapers, bulldozer and/or truck/loader methods. Topsoil will be salvaged to a suitable depth according to Table 1 below, across the affected area and overburden salvage depth will vary depending on the depth to mineable limestone. All salvaged topsoil will be stockpiled for reclamation of the location. Stockpiles will remain on location, but be placed outside the active and future planned mining areas. The volume of the current topsoil stockpiles combined is 24,000 yd^3. Trees, large rocks or other waste material will be separated from topsoil, if present. Stockpiles will initially be stabilized using surface roughening to protect from wind and water erosion. The NRCS recommended

stockpile seed mix can be found in Appendix B. This mix will be used to stabilize the stockpiles. Seeding will take place as soon as possible, but during a time that favors germination and seeding establishment and when ground conditions allow seeding operations. Correspondence is provided in Appendix B as proof of consultation. Topsoil stockpiles will be seeded using hydro-seeding or drill seed methods and identified by signs mounted on posts.

Table 1. Suitable Topsoil Salvage Depths and Volume for Proposed Disturbance Area

Map Unit Symbol	Map Unit Name	Soil Series & Associated Disturbed Acreage	Topsoil Salvage Depth (ft)[b]	Total Volume of Topsoil (yd^3)
Q0645C	Rapidcreek cobbly loam, dry, 2 to 10% slopes rarely flooded	Columbo 13.1 ac	5.08	107,364.11
Q0658D	Rockerville-Gurney complex, 2 to 15% slopes	Rockerville 9.6 ac	1.17	18,120.96
Q0665E	Sawdust-Vanocker, dry-Rockerville complex, 10 to 40% slopes	Vanocker 5.0 ac	0.33	2,662.00
Q0659E	Rockerville-Rock outcrop complex, 6 to 30% slopes	1.3 ac	0.00	0.00
Q0702F	Pits, quarry	42.60 ac	0.00	0.00
Total	--	--	--	128,147.07

[b]Based on suitable soil salvage depths provided in the Soil Survey (Appendix D).
*Current topsoil stockpile combined volume of 24,000 yd^3 was not added back in to the above calculation, since the areas from which it came have been accounted for in the above acreages.

On the west side of the Mickelson Trail, topsoil will be stored in the westernmost corner of the property, south of the current topsoil and overburden stockpiles, and to the north of the northernmost area of proposed mining activity. On the east side of the trail topsoil will be stored on the northern end of the property. For topsoil and overburden stockpile locations see Mine Plan Map (LSMPA Section VIII). Overburden will be stored separately from topsoil and stabilized so as to effectively control erosion.

During reclamation, overburden and topsoil will be moved to its final location using scrapers, and/or a truck/loader. A bulldozer will be used for final placement. The redistributed topsoil may be graded, but will always be left in a roughened condition to provide additional protection from wind and water erosion. Simon will always conduct reclamation operations to limit excessive compaction of the redistributed topsoil. Replacement of overburden and topsoil will be one of the final reclamation activities, occurring approximately 2050 or later.

Topsoil replacement depth is estimated to be approximately 11.5 inches across the affected area. Approximately 101,115 cubic yards of topsoil is estimated to be used for reclamation west of the trail, and an estimated 26,438 cubic yards of topsoil will be used for reclamation east of the trail. In total, an estimated 127,553 cubic yards of topsoil will be used for reclamation and it's anticipated that a total of 128,147 cubic yards will be available; see Table 1. There will be adequate topsoil for reclamation and it is not anticipated that excess topsoil will be used for

reclamation purposes elsewhere. Any excess topsoil will be applied evenly across the disturbance.

When mining west of the trail is complete and highwalls have been resloped, if not leaving for bat habitat, overburden and topsoil will be replaced. The majority of this reclamation will begin in 2070. Some concurrent reclamation on the west side of the trail will begin in approximately 2035; see Section 12 for a detailed discussion. Due to the nature of the mining activity and the constraints on working space, scale and crushing/stockpile areas will remain on the west side of the trail until all mining activities are completed. Once mining has been completed on the east side of the trail the eastern disturbance and remaining scale/crusher area west of the trail will be reclaimed as described above. It is not anticipated that the reclaimed portion west of the trail will be impacted by reclaiming the working and stockpile area that remains. There will be no temporary distribution of stockpiled topsoil or other suitable material due to the nature of the mining activity.

7. SLIDES, SUBSIDENCE OR DAMAGE PROTECTION, FENCING

ARSD 74:29:07:16 and SDCL 45-6B-42

Areas outside the project boundary, as well as the Mickelson Trail, will be protected from slides, subsidence or damage occurring during mining or reclamation activities via a working and vegetative buffer of no less than 50 ft.

Once mining is complete, highwalls will be reduced to the natural angle of repose or a 3:1 slope, unless it is determined they should remain for bat habitat. Simon shall seek input from SDGFP regarding leaving highwalls for bat habitat.

Access to the quarry is currently limited by a locked gate on the access road, perimeter fencing, and signage. When not active the highwall crest is bermed, and during active mining the highwall crest is marked with yellow reflective markers.

8. SPOILS PILES, WEEDS

ARSD 74:29:07:14(1)(2)(3)(4), ARSD 74:29:07:15 and SDCL 45-6B-43

No tailings will be generated during the mining process. The only spoils produced will be the removed overburden. All mined limestone will be sized into various products and sold, which includes crusher fines. The portable crusher has an onboard water dust suppression system to control airborne particulates. Overburden will be stockpiled in locations outside of existing drainages where any water runoff will be captured on site. Erosive runoff from any other areas will be identified and captured on site. Overburden stockpiles will not be a source of water pollution and is non-toxic. Permanent soil dumps are not required as part of the mining operation. All overburden will be placed prior to the topsoil during reclamation to ensure greater revegetation success and not prevent reestablishment of vegetation on the reclaimed land surface.

Topsoil and overburden stockpiles will be stabilized using applicable best management practices and vegetated for erosion control. Simon will use certified weed-free seed and standard agricultural practices to minimize the introduction of listed or noxious weeds. If weed control is required, a licensed third party contractor shall be contracted for herbicide application following all applicable regulations and best practices. Weed control will be required during all phases of the mining operation and initial reclamation. Herbicides to be used, application rates and application times will depend on the weed species and location. Recommendations from the

Custer County Conservation District regarding weed control can be found in Appendix C. Custer County Weed and Pest Department was consulted by phone and provided the South Dakota State University (SDSU) Extension 2020 Weed Control document (Appendix C). This document lists noxious weeds along with recommended herbicides, application rates and any restrictions. Field bindweed, a local noxious weed, was identified during the vegetation survey and control of this species will begin this coming growing season. Subsequent herbicide treatments will be conducted as needed. Per SDSU Extension recommendations, herbicides, such as picloram, should be applied when the plant begins flowering or to regrowth that has emerged in the fall. Several other herbicides are listed for control of field bindweed and herbicide specific application rates can be found in the SDSU Extension document.

9. LANDOWNER CONSULTATION

ARSD 74:29:06:01, ARSD 74:29:06:02, SDCL 45-6B-12 and SDCL 45-6B-44,

Simon is the surface landowner as well as owner of the mineral interest; therefore the instrument of consultation is not applicable. The USFS and SDDOT are the only adjacent landowners. The USFS was consulted in developing a revegetation strategy for ponderosa pine seedlings. Adjacent landowners will receive a copy of the Reclamation Plan once it has been deemed complete by the Department.

After conferring with the Department of Agriculture and Natural Resources the post-mine land use will be forest. The post-mine land use of forest is compatible with the surrounding land use. The quarry is surrounded by USDA Black Hills National Forest. Support and maintenance activities are discussed throughout this plan and include storm water inspections, noxious weed control and vegetation monitoring. Returning the quarry to forest is obtainable, of beneficial use, and Simon has the financial capability to complete this reclamation. No commitments from public agencies are required, but as discussed in Section 3 the SDGFP will be consulted regarding leaving highwalls for bat habitat prior to blasting and regrading. This may require the commitment of personnel time from the department. Reclamation is planned pursuant to the mine sequence schedule. There are no known land use plans/programs that include the quarry area.

10. RECLAMATION CHOICES, OPERATOR REQUIREMENTS

ARSD 74:29:06:02 through ARSD 74:29:06:05, ARSD 74:29:07:01, ARSD 74:29:07:18 through ARSD 74:29:07:26, SDCL 45-6B-7(1) and SDCL 45-6B-45

Simon will restore a stable, non-erosive post-mining surface which promotes a post-mining land use of forest. The estimated area to be reclaimed is approximately 62 acres west of the trail and 15 acres east of the trail. This post-mine land use is typical of the surrounding area. Reforestation and revegetation practices will establish cover sufficient to prevent undue erosion as well as establish species diversity and composition which supports the intended land use.

Reclamation success will be determined by comparing post-mine vegetation to results from the baseline vegetation survey. Methods for collecting vegetation data will follow the baseline survey found in Appendix D. Reclamation will be considered successful when the reclaimed areas reach 70% of the pre-disturbance ponderosa pine stand density within five years of planting seedlings. Pre-disturbance stand density is not included in the baseline vegetation survey, but was estimated based on aerial imagery and is included in the revegetation section of this plan. Other criteria for determining reclamation success will include establishing desirable perennial vegetation, as compared to the undisturbed woodland and upland grassland locations in the baseline survey, and verifying that understory vegetation is diverse, self-sustaining and adequate to control erosion. Steep slopes flattening out to valley floors is characteristic of the surrounding area. The

final graded slopes, excluding any highwalls that may remain for bat habitat, are not expected to exceed the slopes in the surrounding area.

In order to successfully implement and reclaim the disturbed area, storm water inspections will continue until final bond release as outlined in the SWPPP provided with the Operating Plan. Inspections will not only allow for the monitoring of storm water issues, but will allow for ongoing monitoring of vegetation establishment as well as presence of invasive species.

Vegetation similar to the natural pre-mining vegetation will be seeded using hydro-seeding and/or drill seed application methods. Simon will ensure that slopes blend with surrounding native and reclaimed lands and that the slopes are stable. Once grasses are established, final reclamation will include forest planting of ponderosa pine seedlings to support forest land use. Planting methods and care of stock will follow good planting practices. Reclamation is anticipated to be completed 4-5 years after cessation of mining operations.

It is anticipated that some highwalls may remain as part of the reclaimed area for bat habitat. Evaluation of habitat would be coordinated with the SDGFP. If a highwall is determined not to be suitable bat habitat, it will be reduced to a 3:1 slope or less and be reclaimed.

Simon has no intended plan for future industrial, homesite or mineral exploration after the life of the quarry. Simon has the financial capability to perform the required reclamation, which is planned pursuant to the mine sequence schedule. Simon understands that the conditions and requirements of the reclamation plan must be met prior to final bond release.

11. RECLAMATION TIME TABLE

SDCL 45-6B-46

Simon will complete the reclamation described above with all reasonable diligence and estimates reclamation will be completed approximately 4-5 years after cessation of mining. There will be no unsuitable land, roads, permanent pools or lakes or other features in which revegetation will not be feasible.

12. CONCURRENT AND INTERIM RECLAMATION

ARSD 74:29:08

Concurrent reclamation efforts for the disturbance west of the Mickelson Trail will begin in approximately 2035 when stripping begins to the west of the current quarry pit (area '2036-2042' on the Mine Sequence Map). Stripped topsoil will be stockpiled for later use and overburden will be moved directly to final placement for highwall sloping along the southwest property line. The next opportunity for concurrent reclamation will be in approximately 2070 when highwall lay-back begins at the northern extent of the disturbance area. Limestone will be mined to final grade and processed, and final topsoil placement and seeding will occur the following year. SDGFP will be consulted regarding highwalls during concurrent reclamation as described in Section 3.

Due to the nature of the construction activity and the constraints on working space, scale and stockpile areas will remain on the west side until all mining activities are completed. Final reclamation for the remaining stockpile and scaling areas will be completed on the west side of the trail when mining operations are fully completed and the crusher and remaining stockpiles and removed. Should mining operations change in the future and areas are identified that can be reclaimed earlier concurrent to mining operations, reclamation will be initiated in accordance with this plan.

Concurrent reclamation to the east of the trail will proceed in a similar manner as to the west of the trail. The eastern quarry area will begin reclamation near the end-of-life of the mine and final reclamation will follow removal of the highwalls until complete.

13. POSTCLOSURE PLAN

SDCL 45-6B-5(5) and SDCL 45-6B-91

After the reclamation bond is released, post closure monitoring will consist of annual visits to the location to identify any erosion issues, noxious weeds or required fencing maintenance. There will be no treatment of tailings or monitoring systems at this location. Should any erosion, fugitive dust, weeds or other maintenance be required it will be carried out with all reasonable diligence. Vegetation will be qualitatively monitored during the annual inspections to ensure establishment of a self-sustaining vegetative community.

14. RECLAMATION OF MILL SITES

ARSD 74:29:05

No mill sites will be constructed in conjunction with this mining operation.

15. MAPS

ARSD 74:29:02:12 and SDCL 45-6B-7(8)

Post reclamation maps showing the anticipated physical appearance and final contours of the reclaimed mine as well as an outline of the proposed final land areas can be found in Section VIII of the LSMPA package.

16. BONDING

ARSD 74:29:02:08, SDCL 45-6B-20 and SDCL 45-6B-20.1

Estimated reclamation cost is approximately $4,097 per acre. Total disturbance west of the trail is estimated to be approximately 65.4 acres, with an additional 17.1 acres east of the trail. This cost includes the placement of overburden and topsoil, finishing topsoil for seeding and cost to seed, fertilize and mulch. This also includes the cost to plant ponderosa pine seedlings once grasses have established. Phased bonding will not be requested, please see Table 3 below for a detailed reclamation cost estimate.

Table 3. Loring Quarry Reclamation Cost Estimate

Work Description	Reclaim Acres	Quantity CY/Acre	Cost per CY	Cost Per Acre	Cost for Assoc. Acres
Place Overburden[a]	7.8	807	$3.00	$2,018	$18,884
Place Topsoil[a]	82.5	807	$3.00	$2,018	$199,733
Finish Topsoil for Seeding[b]	82.5			$510	$42,075
Seed, Fertilize and Mulch[c]	82.5			$1,100	$90,750
Associated Disturbance Lump Sum	22.8				$10,000
Demo Scale & Building[d]					$20,000
Drill, Shoot and Slope Highwalls[e]					$50,000
Total Cost to Reclaim					$431,441
Cost to Reclaim per Acre					$4,097

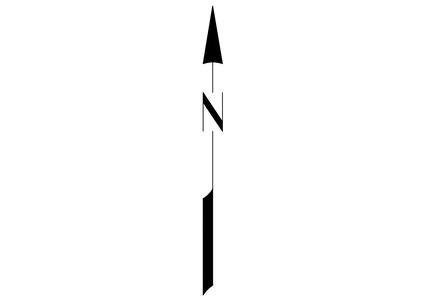
[a]Scraper cost.
[b]D8 and operator at $170 per hour at 3 hours per acre.
[c]Subcontractor cost.
[d]Dust shed is ~108 ft x 75 ft; scale is ~10 ft x 6 ft.
[e]Ancillary Lump Sum.

LORING QUARRY

Sections 33 & 34; T5S-R4E
Custer County, SD

Simon Contractors
Pre-mining Contour Plan View

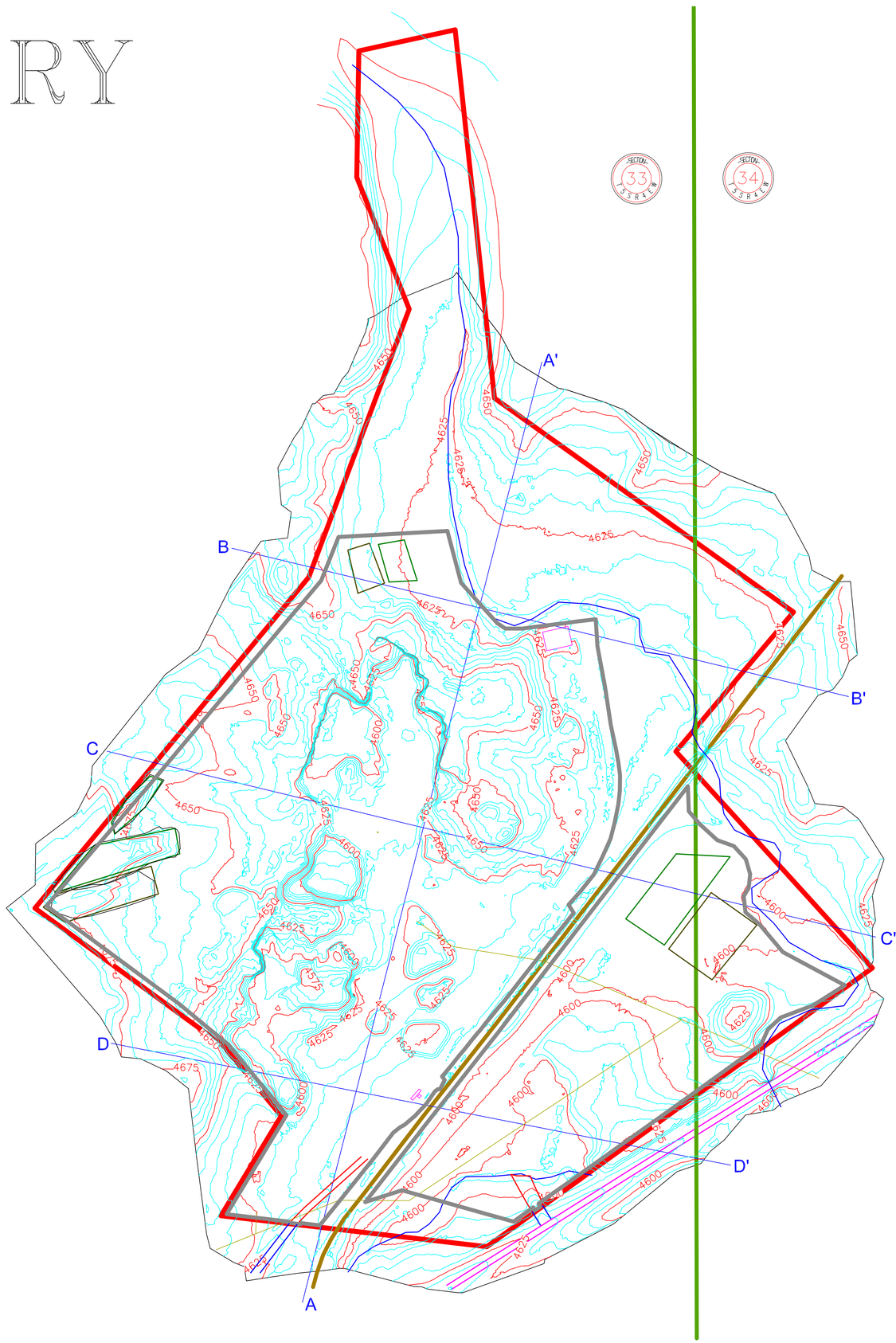
Prepared 8-9-2021
Prepared by: Nathan Oliver



Scale: 1"=250'
Contours: 5 ft

- SECTION LINE
- PROPOSED LORING QUARRY MINE PERMIT BOUNDARY
- SD HWY 89
- ON-PROPERTY ACCESS ROAD
- OFF-PROPERTY ACCESS ROAD
- STRUCTURES
- MICKELSON TRAIL
- DRAINAGE
- PROPOSED PERMITTED AFFECTED AREA
- OVERHEAD ELECTRICAL
- TOPSOIL STOCKPILES
- OVERBURDEN STOCKPILES
- A — A' PROFILE CENTERLINE "A"
- B — B' PROFILE CENTERLINE "B"
- C — C' PROFILE CENTERLINE "C"
- D — D' PROFILE CENTERLINE "D"

ARSD 74:29:02:04(2)
SDCL 45-6B-6(8)(a)
SDCL 45-6B-10(1)
SDCL 45-6B-10(3)
SDCL 45-6B-10(5)



LORING QUARRY

Sections 33 & 34; T5S-R4E
Custer County, SD

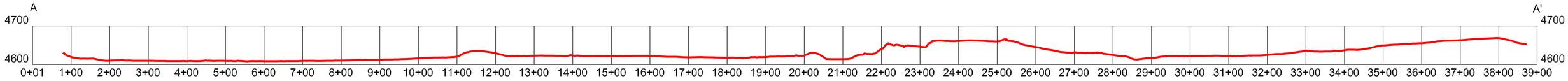
Simon Contractors
Pre-mining Contour Profile A-A'

Prepared 8-9-2021
Prepared by: Nathan Oliver

Scale: 1"=125'

125 0 63 125 250 500

ARSD 74:29:02:04(3)
SDCL 45-6B-6(8)(b)



LORING QUARRY

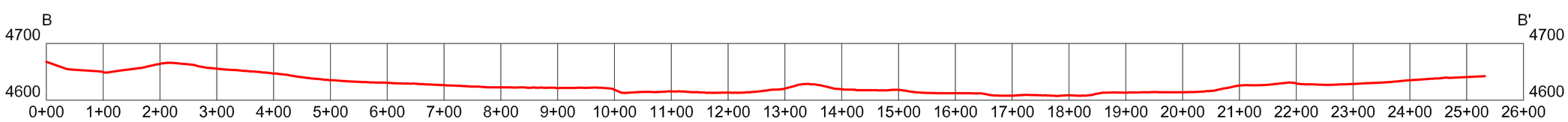
Sections 33 & 34; T5S-R4E
Custer County, SD

Simon Contractors
Pre-mining Contour Profile B-B'

Prepared 8-9-2021
Prepared by: Nathan Oliver

Scale: 1"=100'

ARSD 74:29:02:04(3)
SDCL 45-6B-6(8)(b)



LORING QUARRY

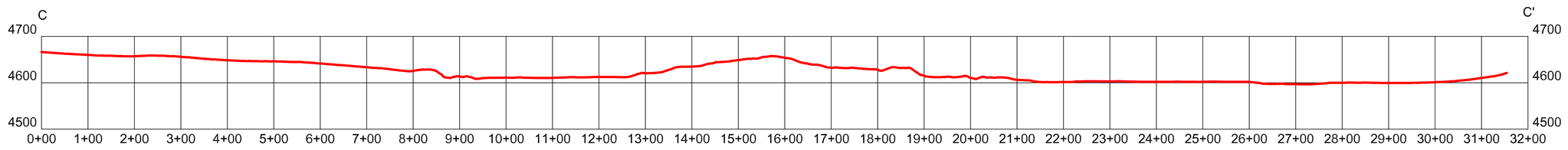
Sections 33 & 34; T5S-R4E
Custer County, SD

Simon Contractors
Pre-mining Contour Profile C-C'

Prepared 8-9-2021
Prepared by: Nathan Oliver

Scale: 1"=125'

ARSD 74:29:02:04(3)
SDCL 45-6B-6(8)(b)



LORING QUARRY

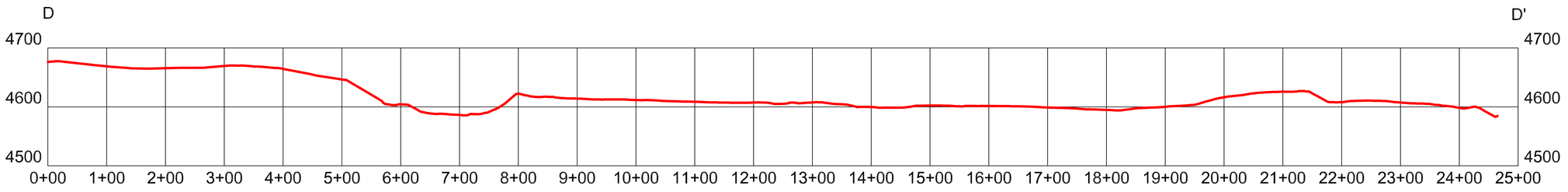
Sections 33 & 34; T5S-R4E
Custer County, SD

Simon Contractors
Pre-mining Contour Profile D-D'

Prepared 8-9-2021
Prepared by: Nathan Oliver

Scale: 1"=100'

ARSD 74:29:02:04(3)
SDCL 45-6B-6(8)(b)

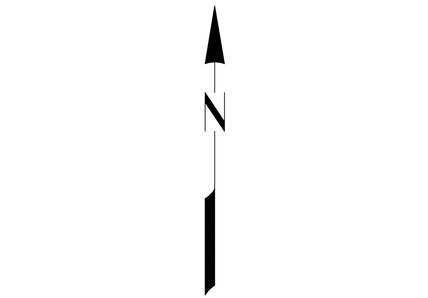


LORING QUARRY

Sections 33 & 34; T5S-R4E
Custer County, SD

Simon Contractors
Pit Final Contour Plan View

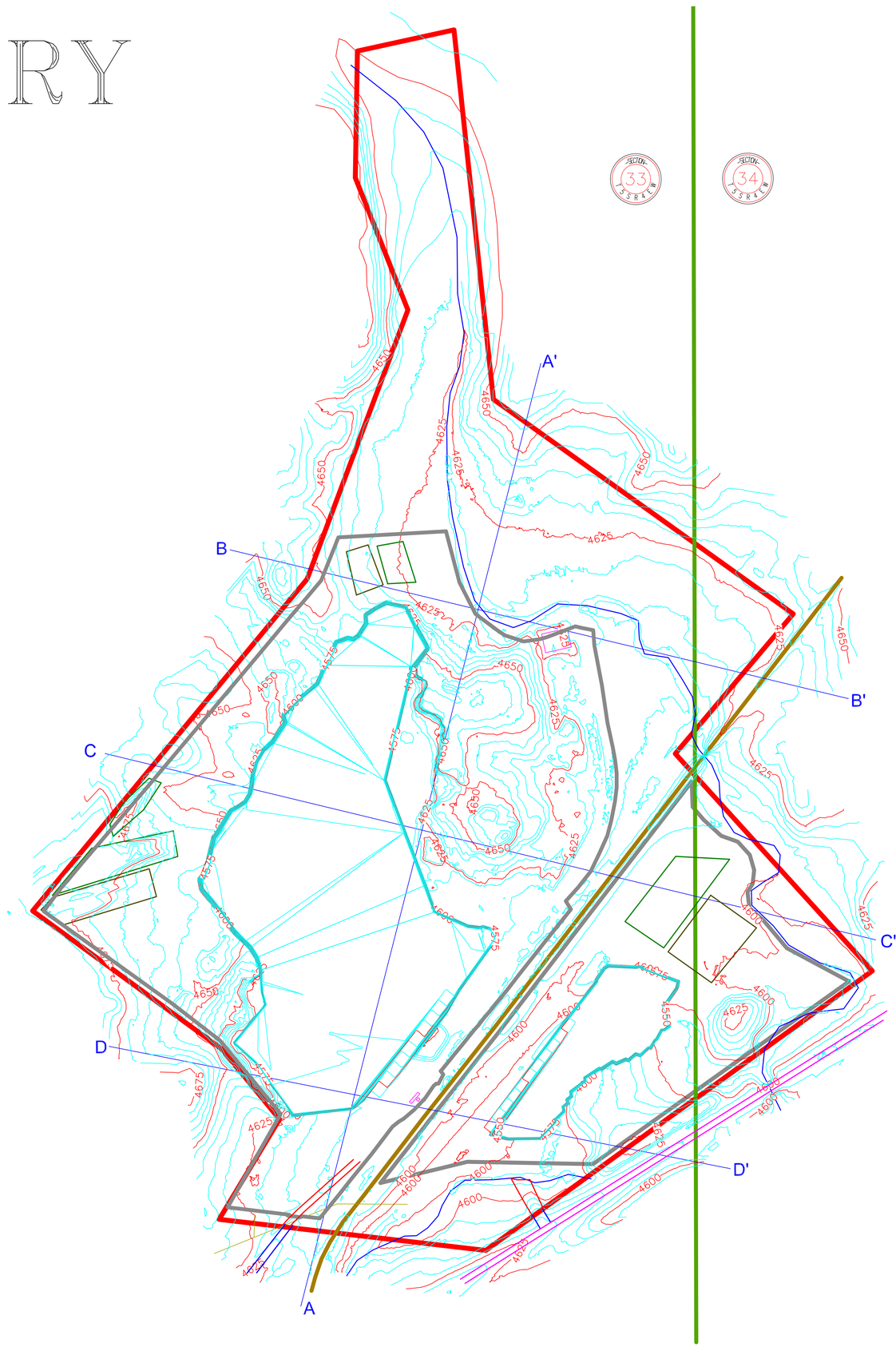
Prepared 4-9-2022
Prepared by: Nathan Oliver



Scale: 1"=250'
Contours: 5 ft

- SECTION LINE
- PROPOSED LORING QUARRY MINE PERMIT BOUNDARY
- SD HWY 89
- ON-PROPERTY ACCESS ROAD
- OFF-PROPERTY ACCESS ROAD
- STRUCTURES
- MICKELSON TRAIL
- DRAINAGE
- PROPOSED PERMITTED AFFECTED AREA
- OVERHEAD ELECTRICAL
- TOPSOIL STOCKPILES
- OVERBURDEN STOCKPILES
- A — A' PROFILE CENTERLINE "A"
- B — B' PROFILE CENTERLINE "B"
- C — C' PROFILE CENTERLINE "C"
- D — D' PROFILE CENTERLINE "D"

ARSD 74:29:02:04(2)
SDCL 45-6B-6(8)(a)

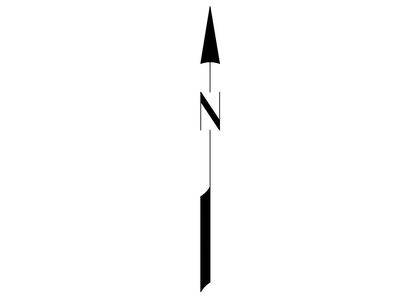


LORING QUARRY

Sections 33 & 34; T5S-R4E
Custer County, SD

Simon Contractors
Post-mining Contour Plan View

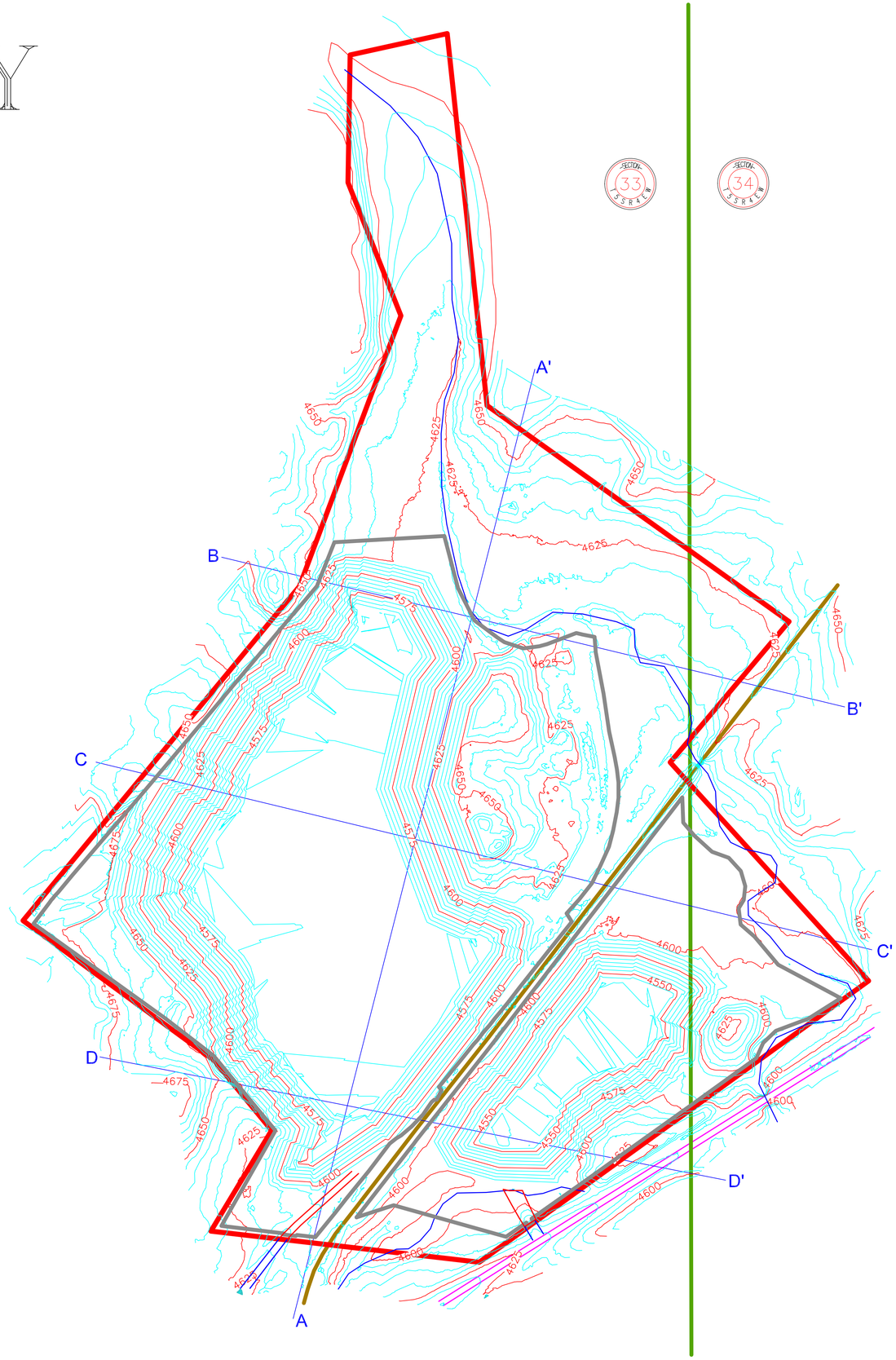
Prepared 8-17-2021
Prepared by: Nathan Oliver



Scale: 1"=250'
Contours: 5 ft

	SECTION LINE
	PROPOSED LORING QUARRY MINE PERMIT BOUNDARY
	SD HWY 89
	ON-PROPERTY ACCESS ROAD
	OFF-PROPERTY ACCESS ROAD
	MICKELSON TRAIL
	DRAINAGE
	PROPOSED PERMITTED AFFECTED AREA
A — A'	PROFILE CENTERLINE "A"
B — B'	PROFILE CENTERLINE "B"
C — C'	PROFILE CENTERLINE "C"
D — D'	PROFILE CENTERLINE "D"

ARSD 74:29:02:04(2)
SDCL 45-6B-6(8)(a)



LORING QUARRY

Sections 33 & 34; T5S-R4E
Custer County, SD

Simon Contractors
Final Pit vs Reclamation Contour Profile A-A'

Prepared 4-9-2022
Prepared by: Nathan Oliver

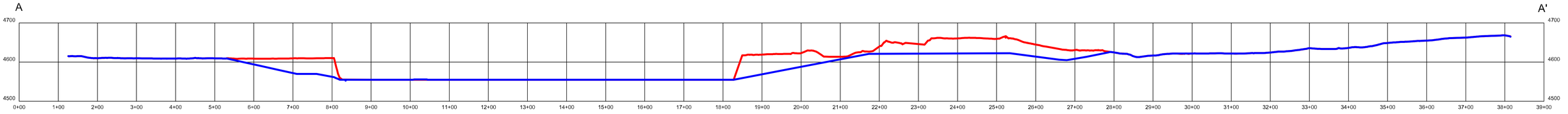
Scale: 1"=125'

125 0 63 125 250 500

Final Pit Profile

Final Reclamation Profile

ARSD 74:29:02:04(3)
SDCL 45-6B-6(8)(b)



LORING QUARRY

Sections 33 & 34; T5S-R4E
Custer County, SD

Simon Contractors
Final Pit vs Reclamation Contour Profile B-B'

Prepared 4-9-2022
Prepared by: Nathan Oliver

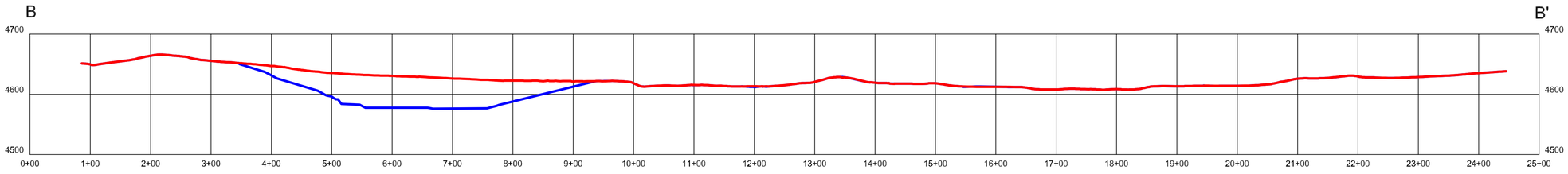
Scale: 1"=100'

100 0 50 100 200 400

Final Pit Profile

Final Reclamation Profile

ARSD 74:29:02:04(3)
SDCL 45-6B-6(8)(b)



LORING QUARRY

Sections 33 & 34; T5S-R4E
Custer County, SD

Simon Contractors
Final Pit vs Reclamation Contour Profile C-C'

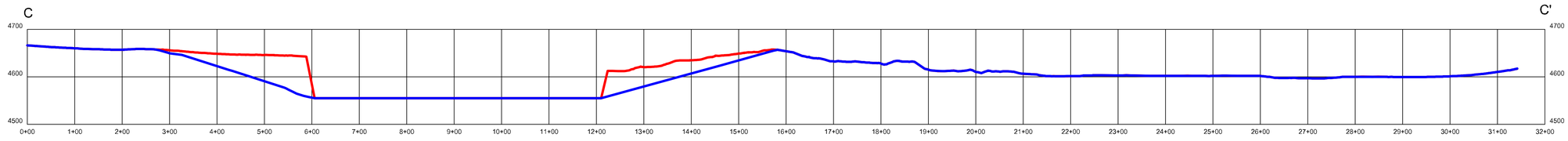
Prepared 4-9-2022
Prepared by: Nathan Oliver

Scale: 1"=125'

Final Pit Profile

Final Reclamation Profile

ARSD 74:29:02:04(3)
SDCL 45-6B-6(8)(b)



LORING QUARRY

Sections 33 & 34; T5S-R4E
Custer County, SD

Simon Contractors
Final Pit vs Reclamation Contour Profile D-D'

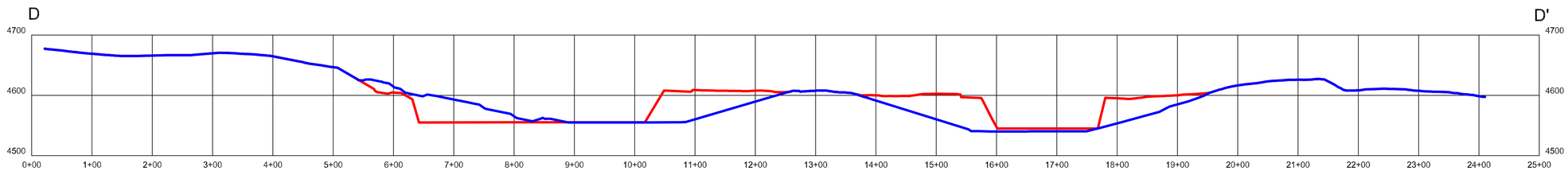
Prepared 4-9-2022
Prepared by: Nathan Oliver

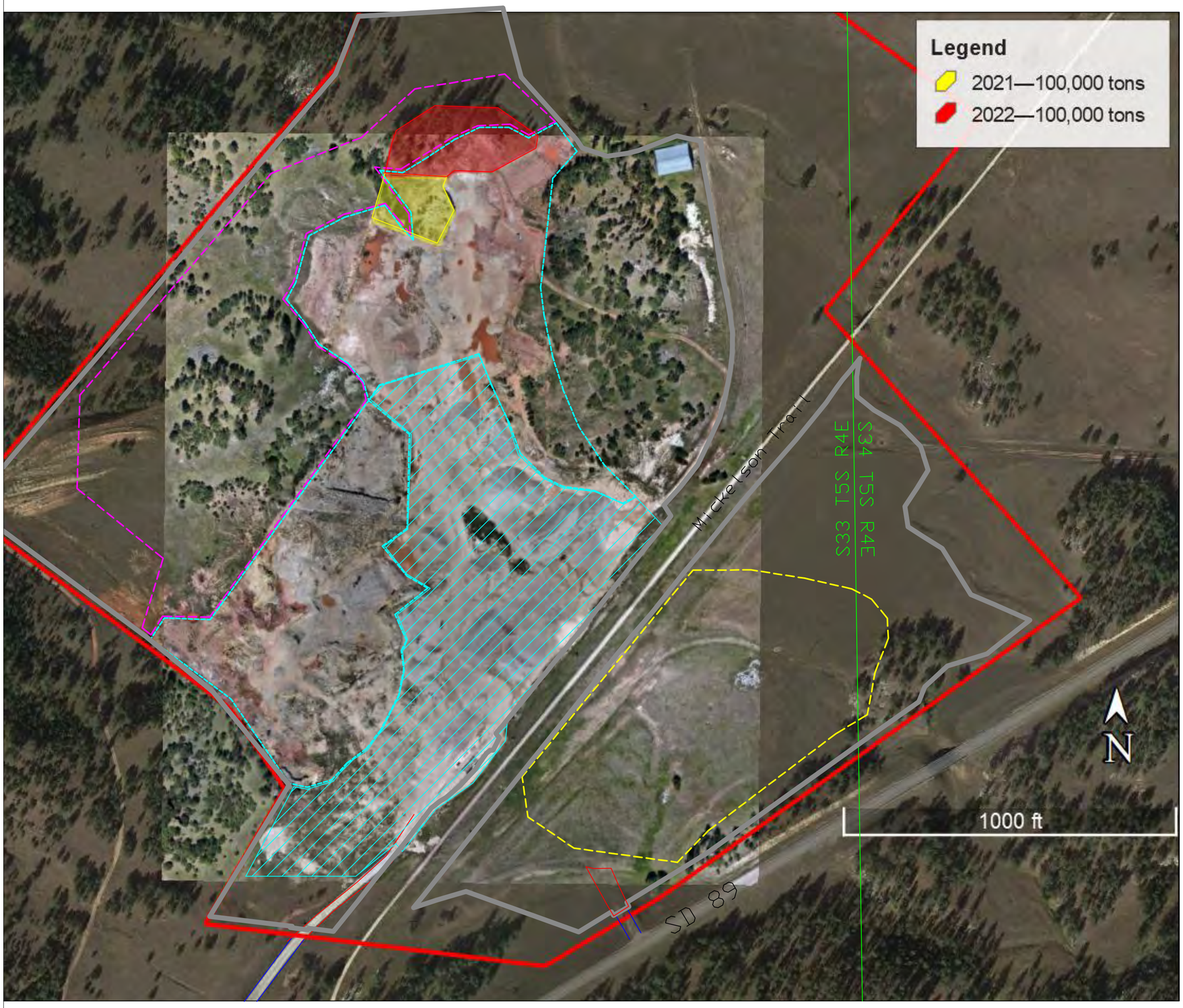
Scale: 1"=100'

Final Pit Profile

Final Reclamation Profile

ARSD 74:29:02:04(3)
SDCL 45-6B-6(8)(b)





Simon Contractors

ARSD 74:29:02:04(3)
SDCL 45-6B-6(8)(b)

- Proposed Loring Quarry Mine Permit Boundary
- Current Stockpile Area
- Section Boundary
- Proposed Permitted Affected Area
- On-Property Access Road
- Off-Property Access
- Current Limestone Quarry
- Western Quarry Expansion
- Eastern Quarry Expansion

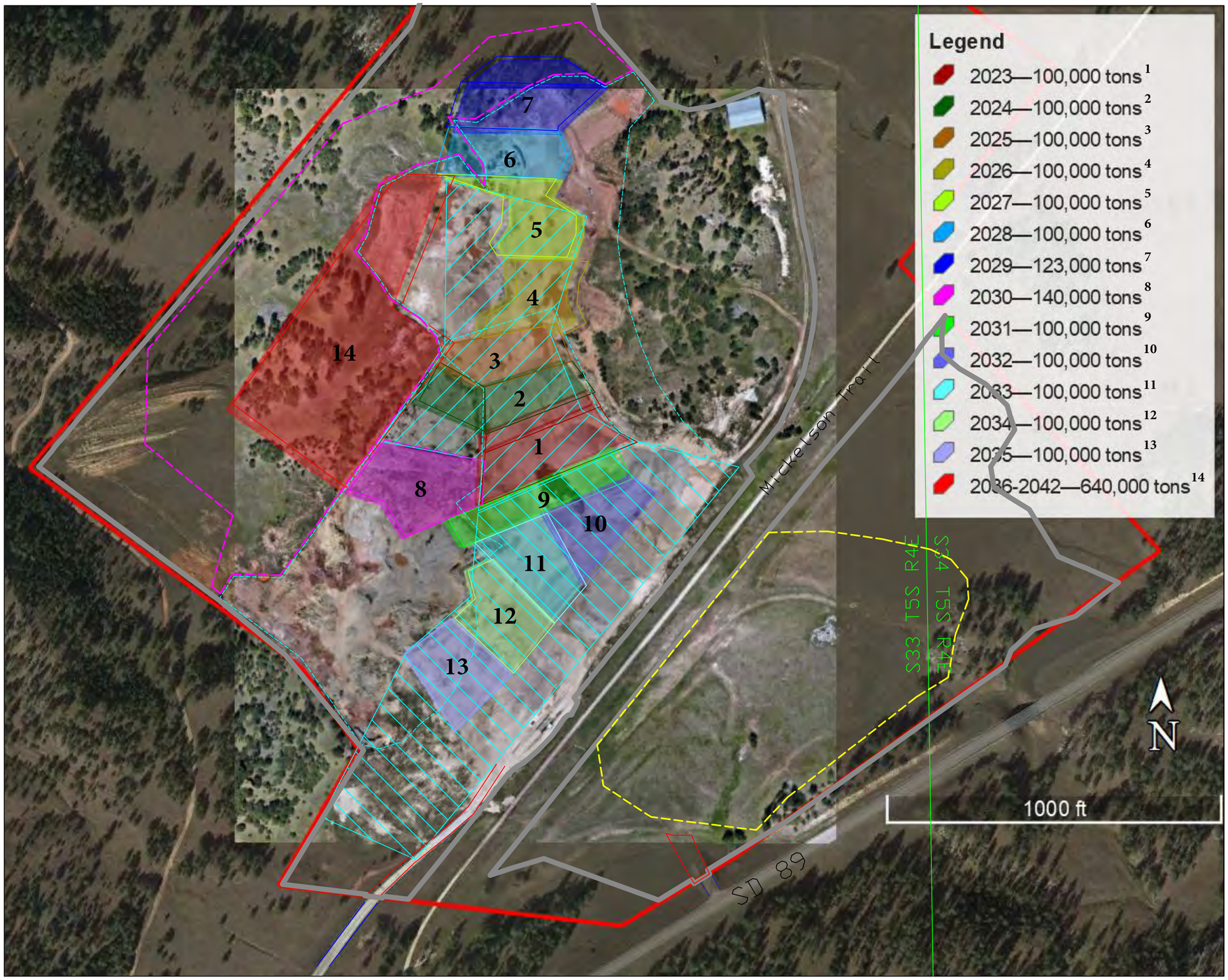
N

S

0 500 1000

Loring Quarry Mine Sequence 2021-2022

Drawn by Nathan Oliver
4/7/2021



Simon Contractors

ARSD 74:29:02:04(3)
SDCL 45-6B-6(8)(b)

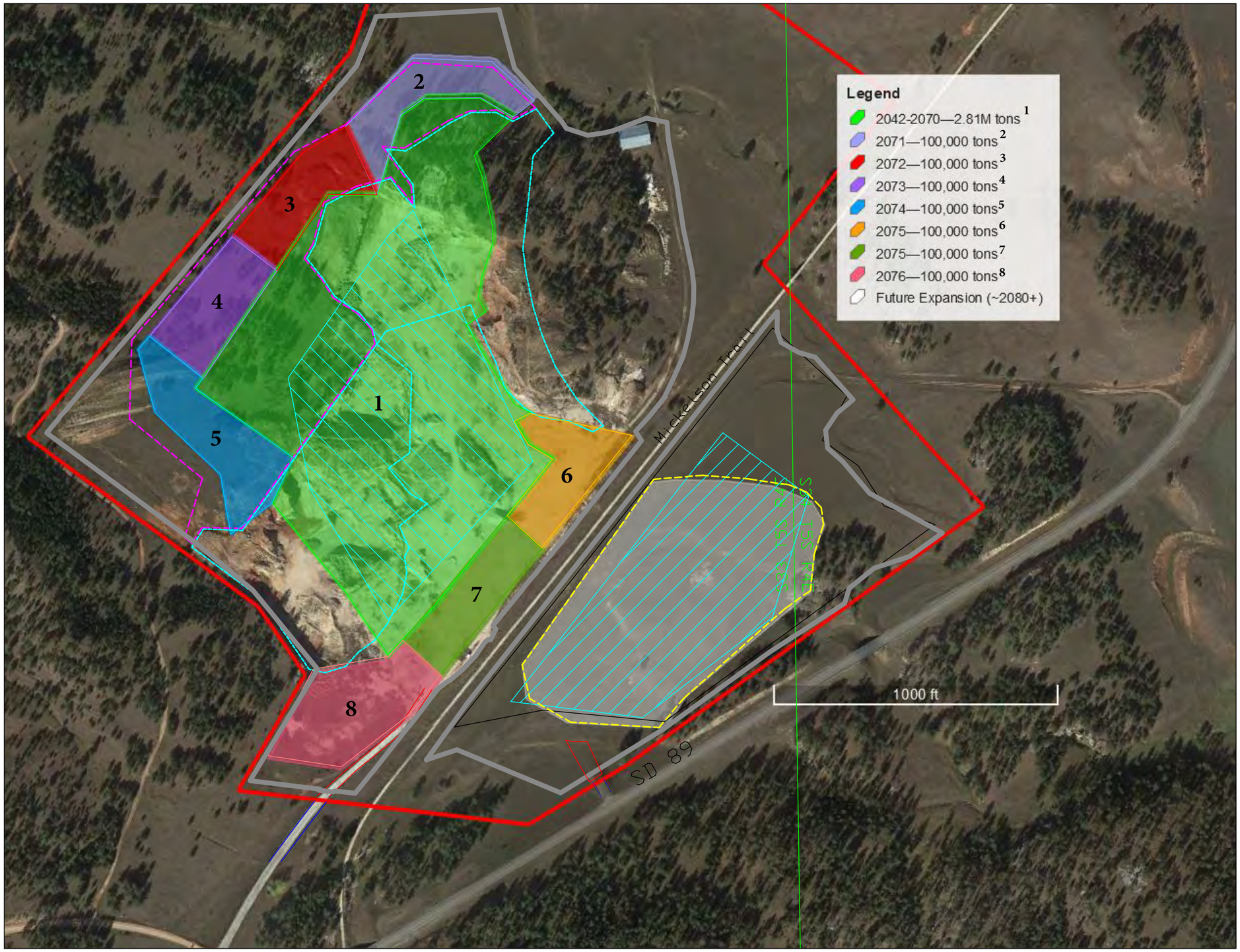
- Proposed Loring Quarry Mine Permit Boundary
- Section Boundary
- Stockpile Area, 2023-2026
- Stockpile Area, 2026-2042
- Proposed Permitted Affected Area
- On-Property Access Road
- Off-Property Access
- Current Limestone Quarry
- Western Quarry Expansion
- Eastern Quarry Expansion

N
S

0 500 1000

Loring Quarry Mine Sequence 2023-2042

Drawn by Nathan Oliver
4/7/2021



Simon Contractors

ARSD 74:29:02:04(3)
SDCL 45-6B-6(8)(b)

- Proposed Loring Quarry Mine Permit Boundary
- Section Boundary
- Stockpile Area, 2042-2085
- Stockpile Area, 2085+
- Proposed Permitted Affected Area
- On-Property Access Road
- Off-Property Access
- Current Limestone Quarry
- Western Quarry Expansion
- Eastern Quarry Expansion

N

S

0 500 1000

Loring Quarry Mine Sequence ~2042-2085+

Drawn by Nathan Oliver
4/7/2021

SIMON

Loring Quarry
Previously Mined Land
SDCL 45-6B-8

0 480 960 1,920

Feet

N W E S

Scale: 1:7,000

Date Produced: 2/21/2022

Designed to be printed at 11" x 17"

Prepared by:

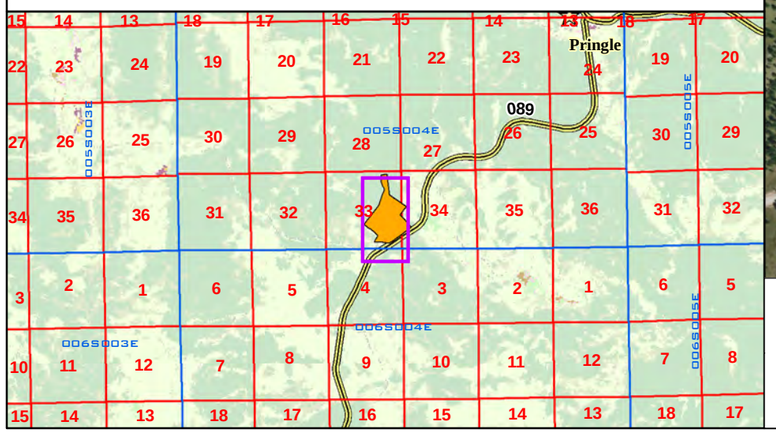
Editor: RGilson

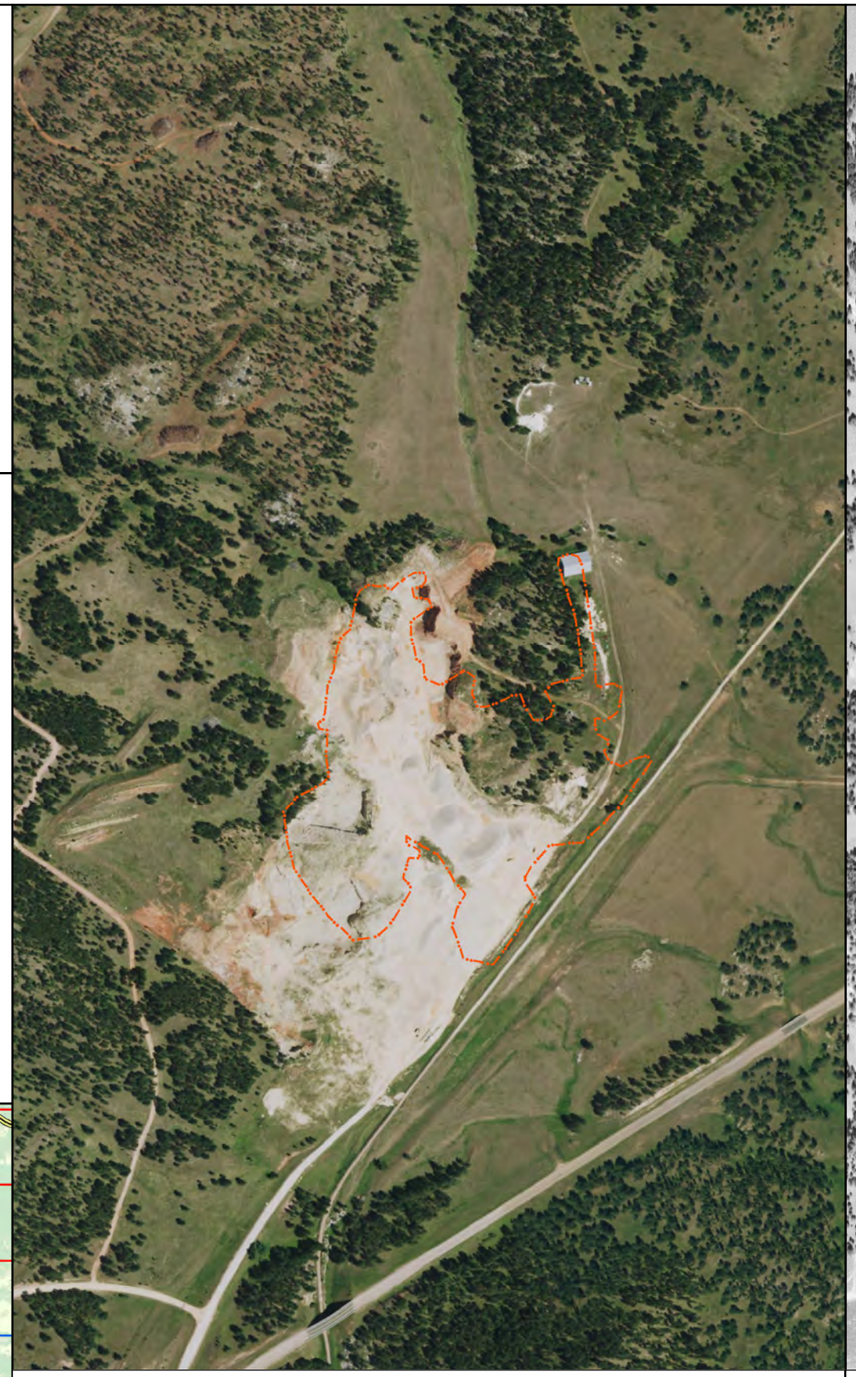
Previously Mined Land Extents 1953 (Approx. Boundary)

Estimated surface disturbance in 1953 = 25.02 Acres

Note: The previously mined land extent boundary and area are estimate based on the georeferenced photo from 1953.

Prepared By:
Robert Gilson
Environmental Professional
H2E, Inc.





Above Image:
NAIP Imagery Dated 2020
Downloaded from USDA Geospatial Data Gateway - Direct Data/NAIP Download - Nationla Ag. Imagery Program County Mosaic (https://gdg.sc.egov.usda.gov/GDGHome_DirectDownLoad.aspx)
ID: ortho_1-1_hn_s_sd033_2020_1

Above Image:
Aerial Photo Single Frame Dated 9/26/1953
Downloaded from USGS EarthExplorer (https://earthexplorer.usgs.gov/)
Entity ID: AR1VBM000010087
Image was georeferenced using identifiable landscape features and historic structures.

SIMON

Loring Quarry
Mine Plan Map
ARSD 74:29:02:11(3)(4)

0 410 820 1,640

Feet

N W E S

Scale: 1:6,000

Date Produced: 5/17/2022

Designed to be printed at 11" x 17"

Prepared by:

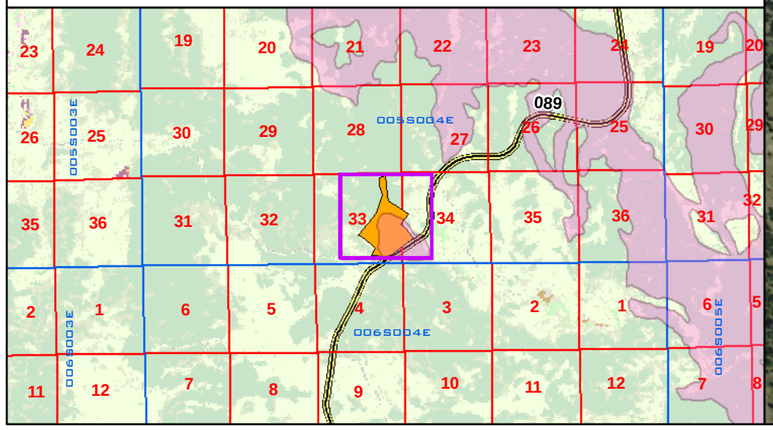
Editor: RGilson

- NHD Flowline (May 7, 2022)
- Proposed Mine Permit Boundary
- Culvert
- Building
- Scale
- Topsoil Stockpile
- Overburden Stockpile
- Current Limestone Stockpile Area
- Current Limestone Quarry
- Quarry Expansion Area
- Proposed Permitted Affected Area
- On Property Road
- Anticipated Overburden Application Area
- Madison Limestone
- Mickelson Trail 50' Buffer
- Off Property Access Road

UIT = Unnamed Intermittent Tributary

Notes: There are no oil and gas wells or pipelines in the area of affected land or within 200' of the affected land. Base map is an NAIP 2020 Aerial Image. Overlaying Surficial Deposits (Madison Limestone) are from publication: Overlying surficial deposits and absent areas for the Madison Limestone, Black Hills area, South Dakota, Version 1.0, April 12, 2000, https://water.usgs.gov/lookup/getspatial?ofr00471_mdsnsurf
NHD Flowlines from May 7, 2022 version of NHD_H_South_Dakota_State_GDB as downloaded from the USGS.

Prepared By:
Robert Gilson
Environmental Professional
H2E, Inc.



UIT
Carroll Creek
Future Topsoil Stockpile
Future Overburden Stockpile
Concrete Culverts
Mickelson Trail
Shed
5S 4E
Section: 33
5S 4E
Section: 34
Current Limestone Quarry
Existing Topsoil Stockpile
Existing Topsoil Stockpile
Western Quarry Expansion
Future Topsoil Stockpile
Future Overburden Stockpile
Existing Overburden Stockpile
Limestone Stockpiles
Current Limestone Quarry
Eastern Quarry Expansion
Scale
Pre-existing Culvert
Cold Brook
Future Crossing
Cold Brook
Approved Access

Document Name: Mine_Plan_Map_v6

SIMON

Loring Quarry
Water Resources
ARSD 74:29:02:11(3)(4)

0 0.1 0.2 0.4

Miles

N W E S

Scale: 1:8,000

Date Produced: 5/17/2022

Designed to be printed at 11" x 17"

Prepared by:

Editor: RGilson

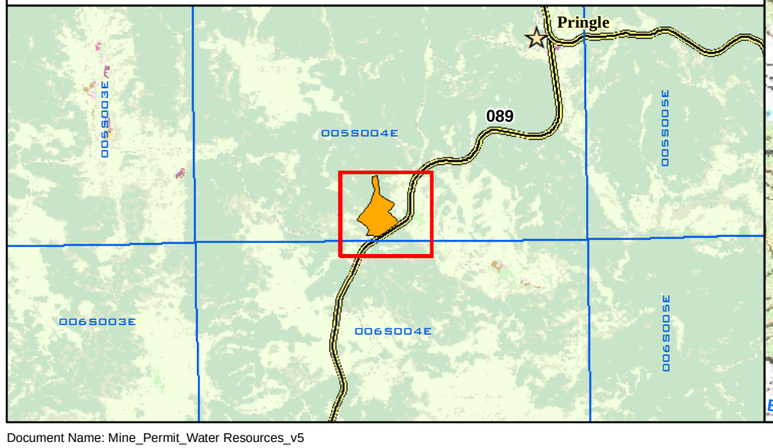
- Spring
- Domestic
- Stock
- NHD Flowline (May 7, 2022)
- Vegetated Swale
- Mickelson Trail
- SD Highways
- Permit Boundary 200ft Buffer
- Proposed Mine Permit Boundary
- Culvert
- Current Limestone Stockpile Area
- Current Limestone Quarry
- Quarry Expansion Area
- Proposed Permitted Affected Area
- On Property Road

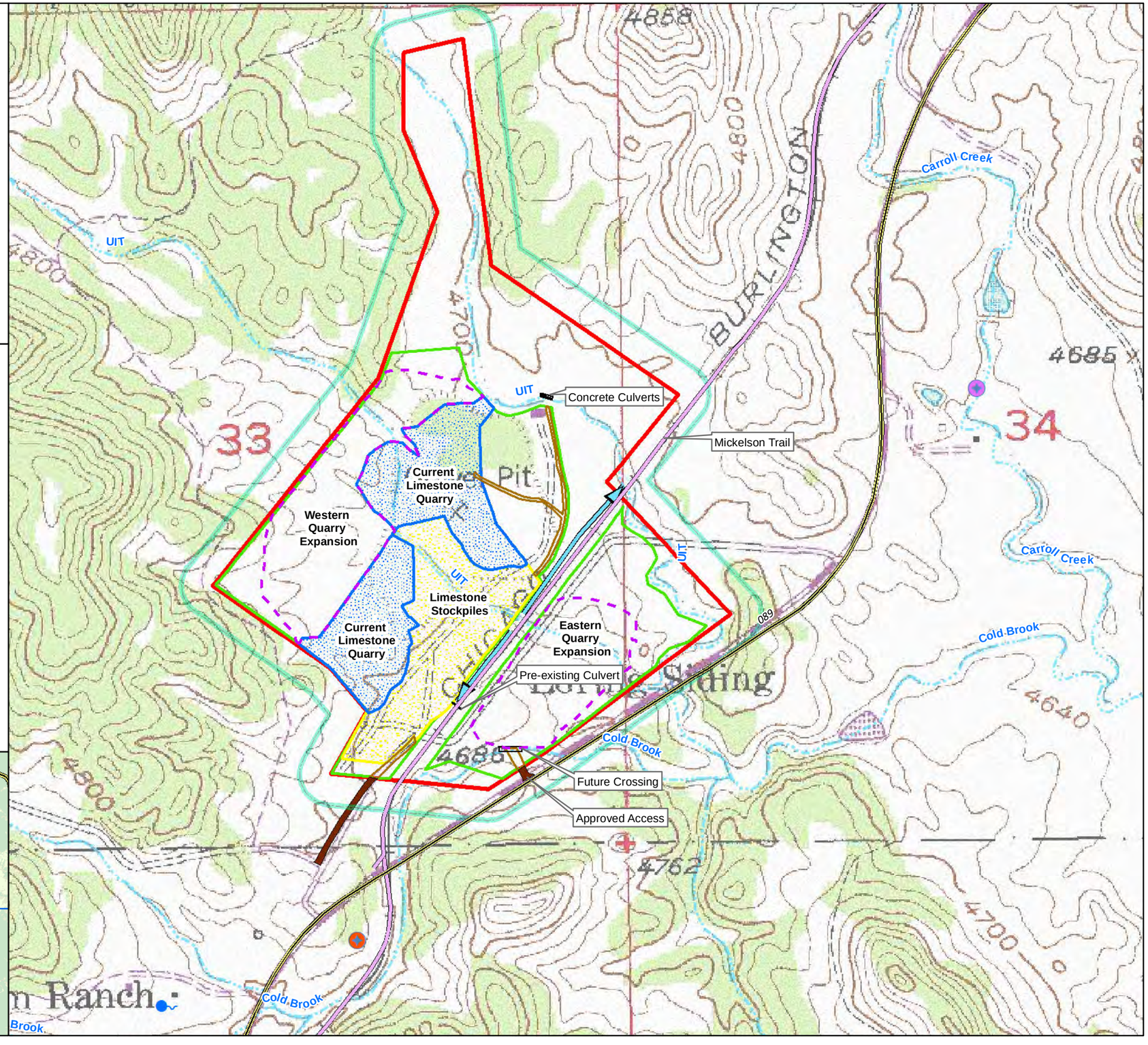
UIT = Unnamed Intermittent Tributary

Note: There are no oil and gas wells or pipelines in the area of affected land or within 200' of the affected land.

Note: Base map is a U.S. geological survey seven-and-one-half-minute quadrangle map in accordance with ARSD 74:29:02:12.

Prepared By:
Robert Gilson
Environmental Professional
H2E, Inc.





Document Name: Mine_Permit_Water Resources_v5

SIMON

Loring Quarry
Water Resources
ARSD 74:29:02:11(3)(4)

0 0.25 0.5 1

Miles

N W E S

Scale: 1:20,000
Date Produced: 5/17/2022

Designed to be printed at 11" x 17"

Prepared by:

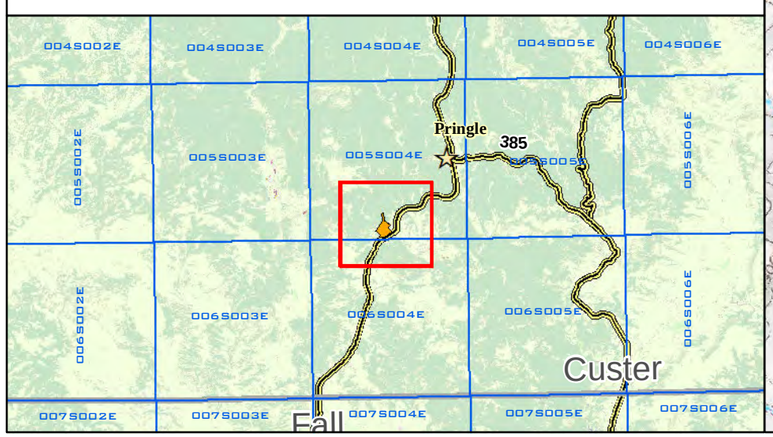
Editor: RGilson

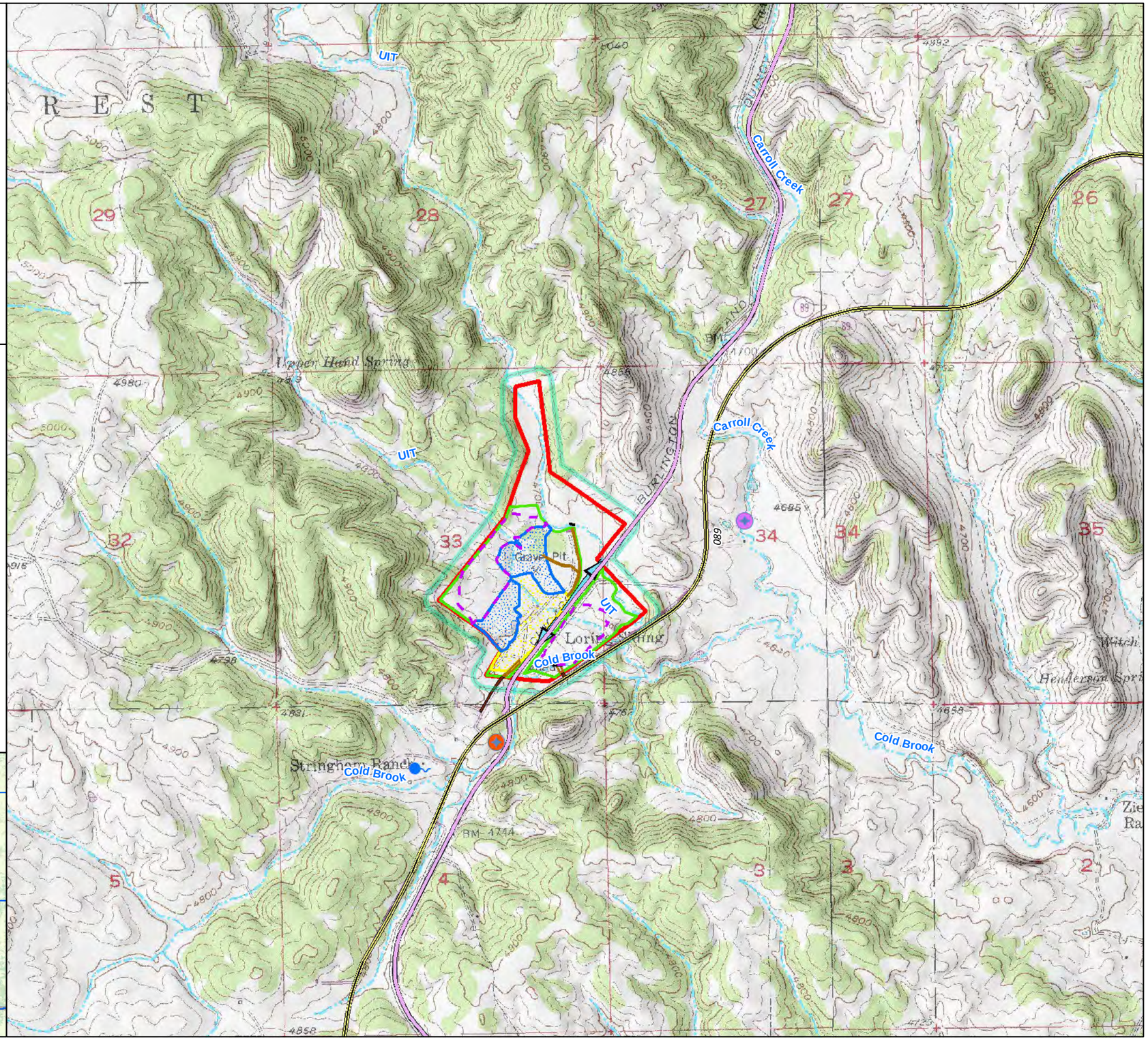
- Spring
- Domestic
- Stock
- NHD Flowline (May 7, 2022)
- Vegetated Swale
- Mickelson Trail
- SD Highways
- Permit Boundary 200ft Buffer
- Proposed Mine Permit Boundary
- Culvert
- Current Limestone Stockpile Area
- Current Limestone Quarry
- Quarry Expansion Area
- Proposed Permitted Affected Area
- On Property Road

UIT = Unnamed Intermittent Tributary

Note: There are no oil and gas wells or pipelines in the area of affected land or within 200' of the affected land.
Note: Base map is a U.S. geological survey seven-and-one-half-minute quadrangle map in accordance with ARSD 74:29:02:12.

Prepared By:
Robert Gilson
Environmental Professional
H2E, Inc.





Document Name: Mine_Permit_Water Resources_20K_v4

SIMON

Loring Quarry
USGS Geologic Map

0 0.3 0.6 1.2

Miles

N W E S

Scale: 1:28,500

Date Produced: 4/14/2022

Designed to be printed at 11" x 17"

Prepared by:

Editor: RGilson

Qal — **Alluvial deposits (Holocene and Pleistocene)**—Stream-laid deposits of mud, silt, sand, and gravel. Narrow deposits not shown. Maximum thickness 10 m

PPm — **Minnelusa Formation (Lower Permian and Pennsylvanian), undivided**—Sandstone, limestone, and minor shale. Thickness 120 to about 350 m

Mp — **Pahasapa Limestone (Lower Mississippian)**—Mainly thick-bedded dolomitic limestone. Reef-like, bluish limestone in uppermost part. Includes Englewood Limestone (unit MDe) in areas of steep terrain. Thickness 80–210 m

Tw — **White River Group (Oligocene and Upper Eocene)**—Silty claystone and poorly indurated sandstone, arkose, and conglomerate. Gravel at higher elevations. Thickness as much as 120 m

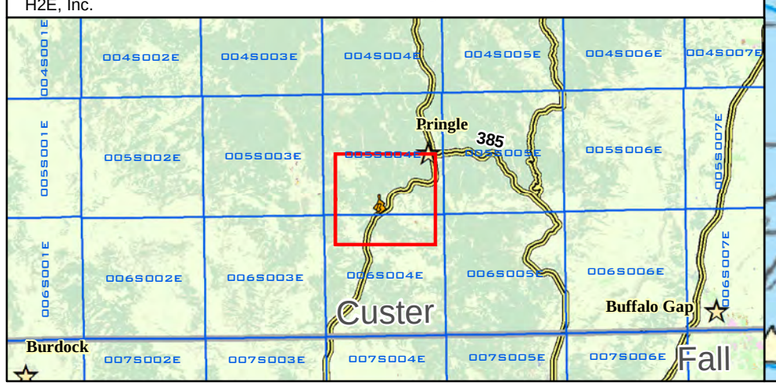
Dome—Size of symbol arbitrary for most domes. Asymmetry indicated by length of arrow for the Lead dome (51) and the Brownsville dome (56). Dashed where approximately located; dotted where concealed

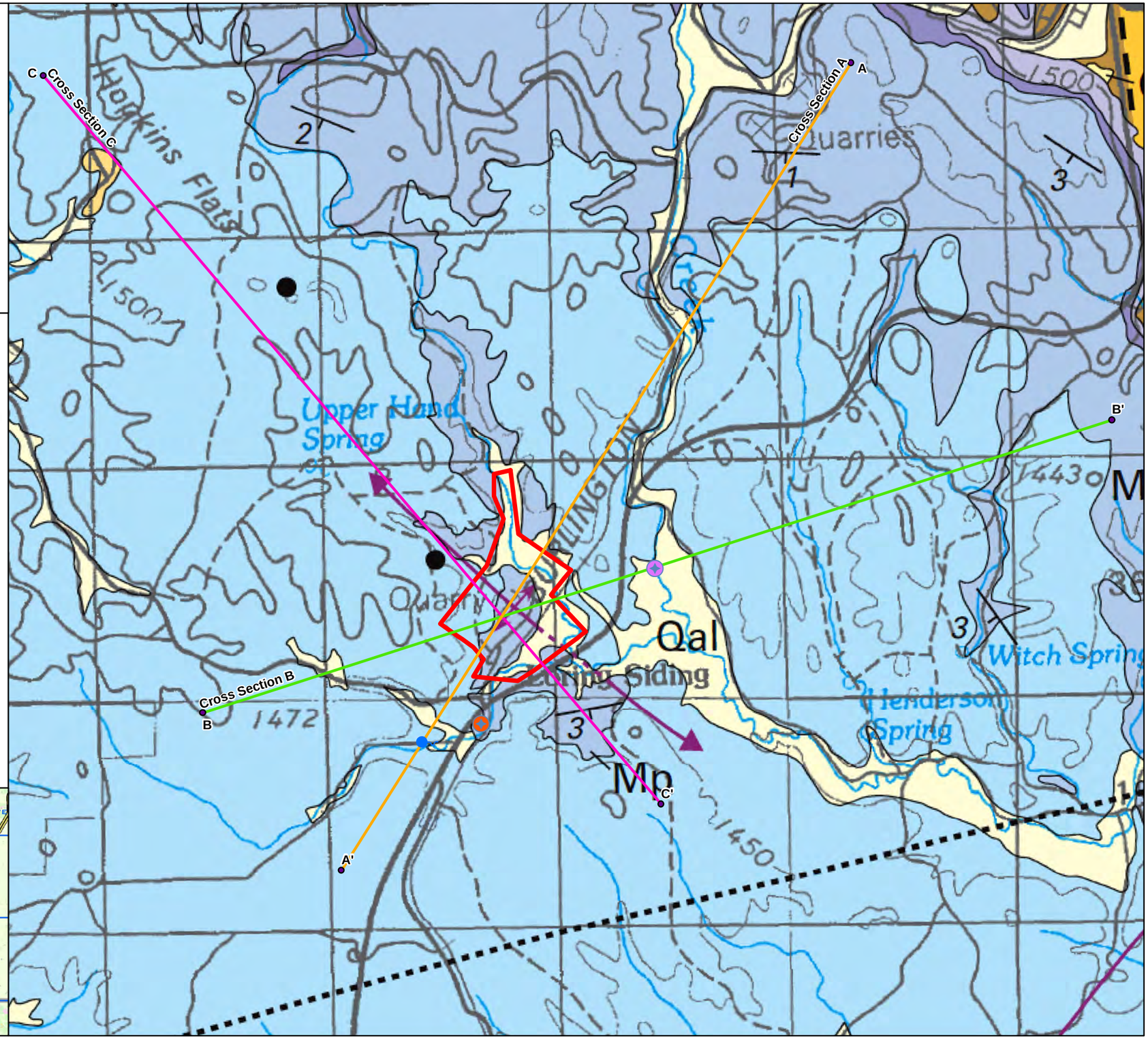
Spring — Stock — Cross Section B

Domestic — Cross Section A — Cross Section C

Data Extracted from:
Jack A. Redden and Ed DeWitt, 2008, USGS Maps Showing Geology, Structure, and Geophysics of the Central Black Hills, South Dakota, Scientific Investigations Map 2777, Sheet 1 of 2.

Prepared By:
Robert Gilson
Environmental Professional
H2E, Inc.





Document Name: Mine_Permit_Geologic_v3

SIMON

Loring Quarry
Geological Cross Sections
ARSD 74:29:02:11(2)

Alluvial Deposits

Minnelusa Formation

White River Group

Pahaspa Limestone

Assumed direction of groundwater flow in Madison aquifer.

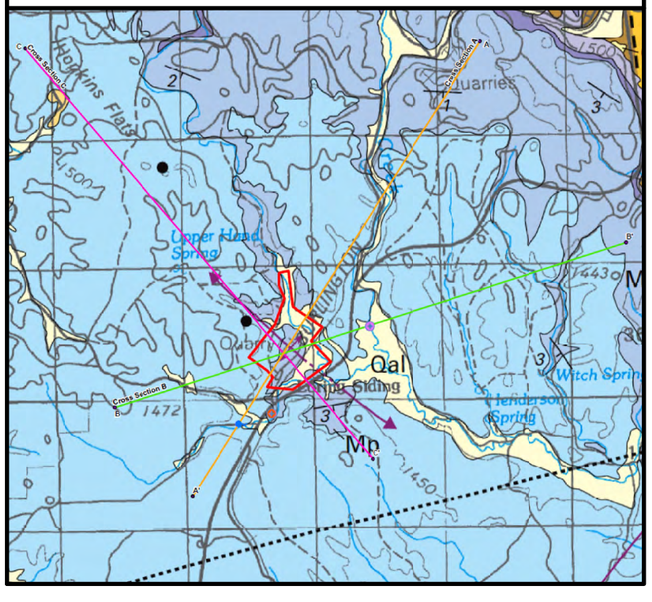
Assumed local direction of groundwater flow in Minnelusa aquifer.

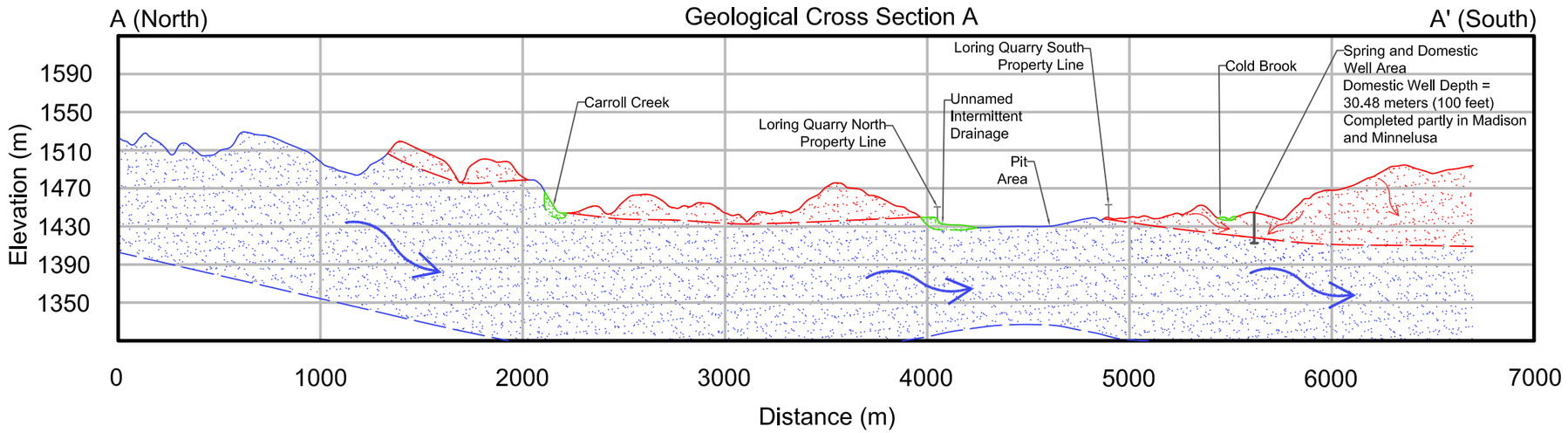
Vertical Exaggeration 5.2:1 for each cross-section.

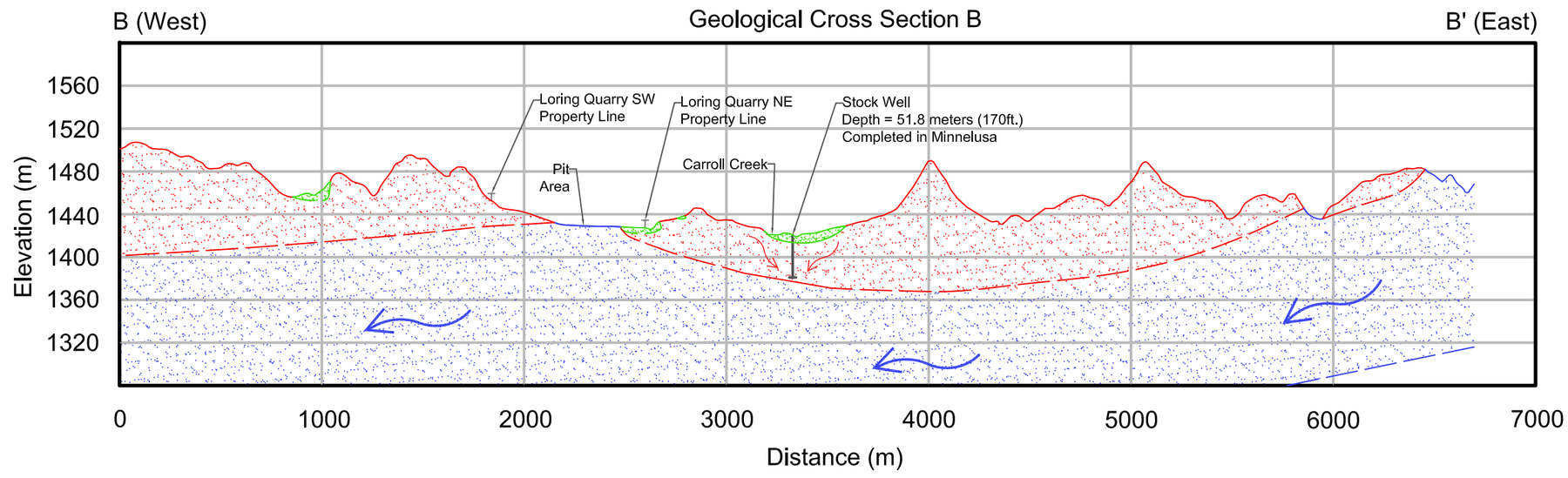
Prepared by:
Becky Morris
Senior Environmental Scientist
H2E, Inc. 4/15/2022

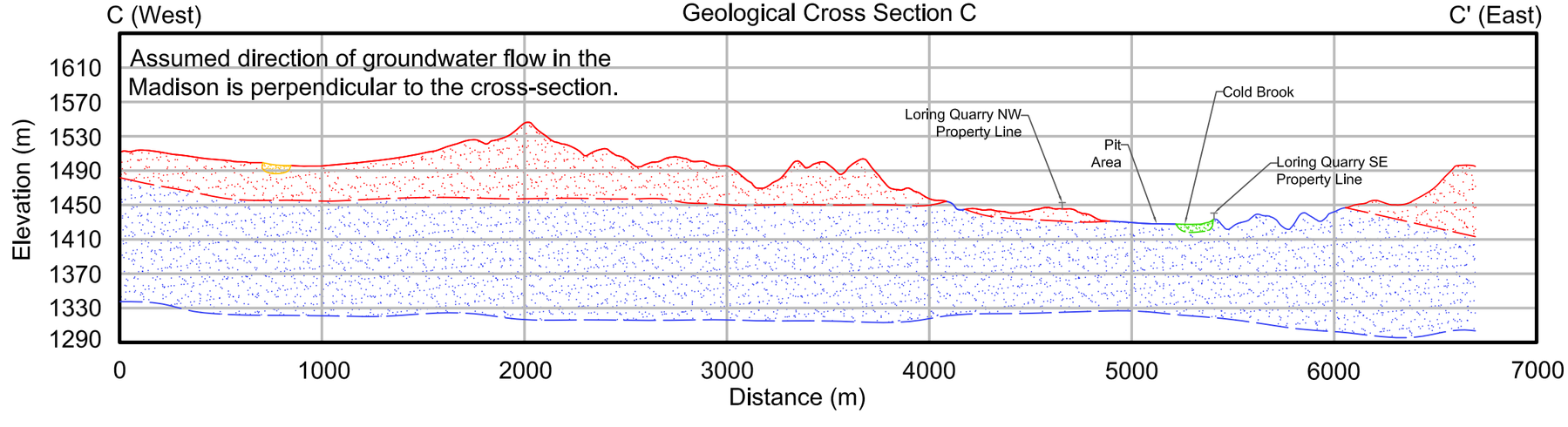
Becky Morris

Map Exerpt from Redden & DeWitt, 2008.









SIMON

Loring Quarry
Map of Viewshed for Adjacent Property
SDCL 45-6B-10
ARSD 74:29:02:03

0 0.1 0.2 0.4

Miles

N W E S

Scale: 1:9,000

Date Produced: 3/30/2022

Designed to be printed at 11" x 17"

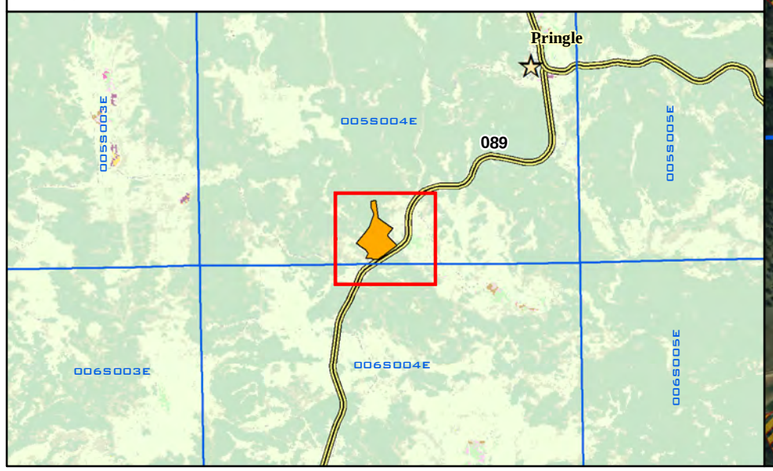
Prepared by:

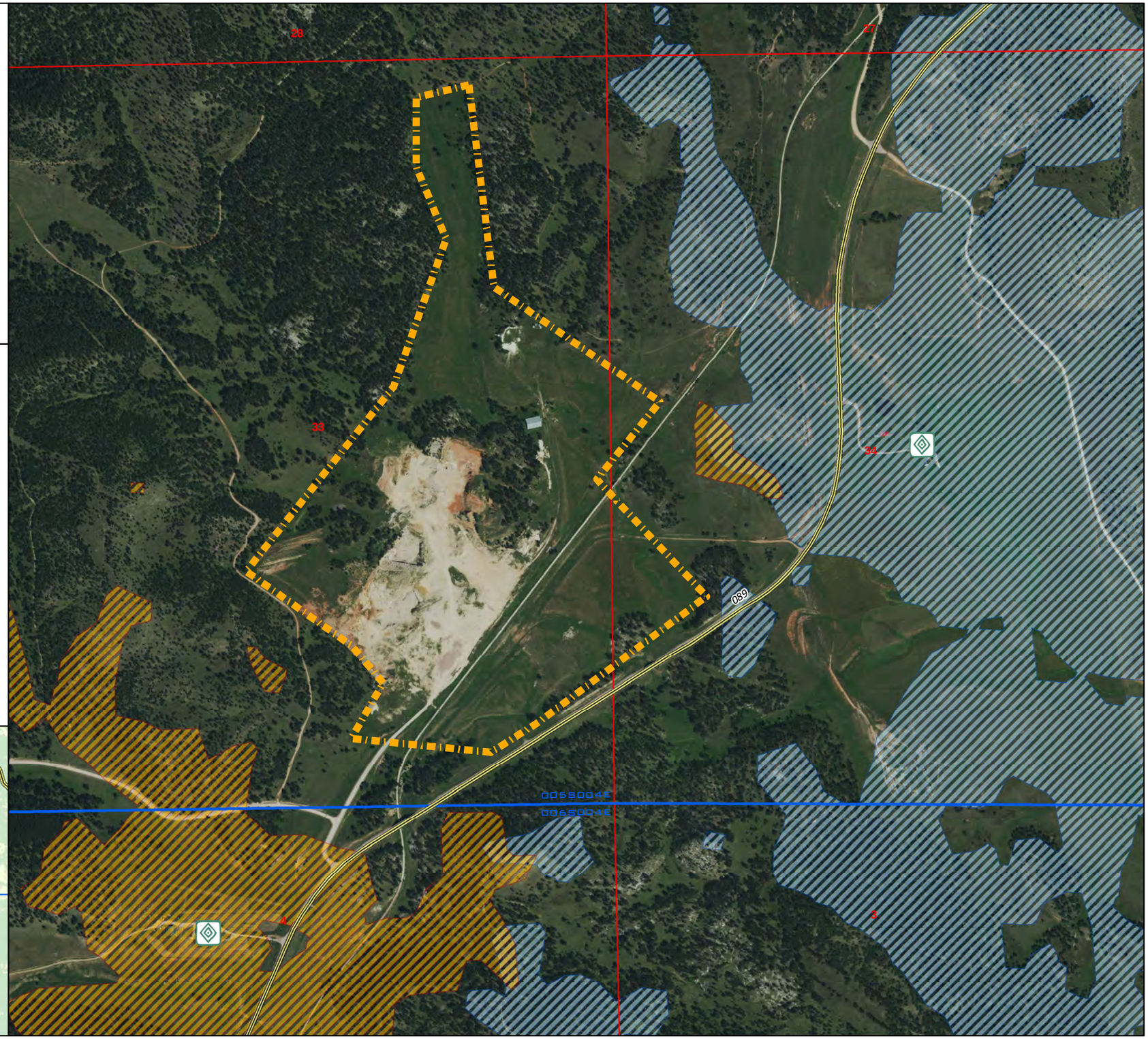
Editor: RGilson

- Residence
- SD Highways
- Viewshed Extents (Residence in Sec 4)
- Viewshed Extents (Residence in Sec 34)
- Loring Quarry Property Boundary
- SD Counties
- Township/Range
- Section

Note: Simon Contractors of SD, Inc. is the surface and mineral owner of the affected land.
Note: There are no oil and gas wells or pipelines in the area of affected land or within 200' of the affected land.
Note: Base map is a U.S. geological survey seven-and-one-half-minute quadrangle map in accordance with ARSD 74:29:02:12.
Note: Viewshed analysis utilizes ESRI prebuilt tools and uses the finest DEM data available. The results are a desktop analysis for planning purposes. Parameters: maximum distance = 1 mile; observer height = 6 ft; surface offset = 10 ft; generalize viewshed polygons = on.

Prepared By:
Robert Gilson
Environmental Professional
H2E, Inc.





Document Name: Mine_Permit_Viewshed_v2